Appendix A

Procedure Overviews

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Cleaning of the Decon Building Concrete P-Trap and Contaminated Equipment Pad Trench

Prepared by	Tracking No.
R.C. Shilkett	1.2.3.1
Date	Revision
October 28. 2002	0

1. PURPOSE

The purpose of this procedure is to address the removal and disposition of accumulated sludge, sediment, and debris from the contaminated drain system including the concrete P-trap located in the floor of Room 112 of the decon building.

2. SCOPE AND APPLICABILITY

This procedure applies to the drainage trench in the contaminated equipment storage pad through the concrete P-trap in the decon building.

3. REGULATORY REQUIREMENTS

None identified.

4. EQUIPMENT

- Equipment, as needed, to remove trench grating sections for cleaning
- Submersible sump pump for removal of liquid above the sediments
- Positive displacement "mud pump" for removal of sediments and liquid
- Collection containers for sediments and liquids
- Absorbents, if needed
- Miscellaneous hand tool
- An oil/water interface level indicator or semiclear bailer.

5. IMPLEMENTATION

The concrete P-trap will be cleaned when >12 in. of material (approximately 15-20 ft^3) has accumulated in the bottom of the trap or when deemed necessary by ICDF Operations. Cleaning of the contaminated equipment pad trench will be performed when there is a sufficient accumulation of sediment and/or debris to impede flow or when deemed necessary by ICDF Operations.

- Perform cleaning of the concrete P-trap as follows:
  - Perform preliminary sampling and determination of waste disposition path, in accordance with the Material Profile Characterization guidance and the ICDF Complex Operations Waste Management Plan (WMP).
  - Prepare work area as directed by the RWP
  - Use a submersible sump pump to transfer most of the liquid fraction (approximately 400-500 gal) above the sediments back into the drain system downstream of the concrete P-trap.
  - Use a rigid wand and a positive displacement "mud pump" to remove sediments to a waste container with absorbent.
  - The appropriate waste tracking documentation in accordance with the Waste Tracking Plan (PLN-914) will be prepared.
  - Following sediment removal, flush pumps and hoses with clean water back into the concrete P-trap.
  - Package equipment and restore work area per RCT directions. Store packaged equipment in the radioactive material storage area of the decon building.
  - Dispose of waste as in accordance with the WMP.
- Remove sediments and debris from the contaminated equipment pad trench as follows:
  - Prepare work area per RWP and RCT direction
  - Remove trench grate sections as needed
  - If needed, dampen sediments with water before removing with hand tools and placing in a waste container
  - Prepare the appropriate waste tracking documentation and sampling of sediments as needed in accordance with the Waste Tracking Plan
  - Replace trench grate sections, package tools, and restore work area per RCT directions
  - Dispose of waste as determined appropriate by WGS in accordance with the WMP.
- Record activities and amounts of sediments removed in the Operating Log.

6. REFERENCES AND INTERFACES

- Drawings 520047, "Decon Building Foundation and Pad Plan" and 520048, "Decon Building Foundation and Pad Plan Sections and Details"
- DOE/ID-10886, *ICDF Complex Operations Wuste Munugement Plan*
- PLN-914, "Waste Tracking Plan."

7. RECORDS

- On-Site Waste Tracking Forms
- IWTS electronic data
- Material Profile records
- Work control data.

Cleaning of the Decon Building Oil/Water Separator

Prepared by	Tracking No.
R.C. Shilkett	1.2.3.2
Date	Revision
October 28, 2002	0

1. PURPOSE

The purpose of this procedure is to address the removal and disposition of accumulated sludge, sediment, and debris or oil from the decon building contaminated drain system.

2. SCOPE AND APPLICABILITY

This procedure applies to the oil/water separator (OT-YDJ-101) located off the east side of the Decon building.

3. REGULATORY REQUIREMENTS

None identified.

4. EQUIPMENT

- Submersible sump pump for removal of liquid phases above the sediments
- Positive displacement "mud pump" for removal of sediments and liquid
- Collection containers for sediments and oil
- Absorbents, if needed
- Miscellaneous hand tools
- An oil/water interface level indicator or semiclear bailer.

5. IMPLEMENTATION

The oil/water separator will always maintain a liquid level of approximately 4 ft 5 in. It will be cleaned when >6 in. (approximately 50 gal) of oil has accumulated on the surface of the water in the separator or >12 in. of material (approximately 10-15 ft^3) have accumulated in the bottom of the separator, or when deemed necessary by ICDF Operations.

- Perform preliminary sampling of phases and determination of waste disposition path in accordance with the ICDF Complex WMP.
- Prepare work area as directed by the RWP

- For oil removal, use a submersible sump pump with a rigid suction line to transfer as much oil as practical to a waste container. Flush pump with water phase back into the oil/water separator.
- For water phase removal (only if sediment removal is required), use a sump pump to transfer the water to the pump station sump leaving about 6 in. of water over the sediment layer.
- Use a rigid wand and a positive displacement mud pump to remove sediments to a waste container with absorbent.
- Prepare the appropriate waste tracking documentation in accordance with the Waste Tracking Plan (PLN-914).
- Following sediment removal, flush pumps and hoses with clean water back into the oil/water separator.
- Refill the oil/water separator to the normal full level with raw water.
- Package equipment and restore work area per RCT directions. Store packaged equipment in the radioactive material storage area of the decon building.
- Dispose of waste in accordance with the WMP.
- Record activities and amounts of oil or sediments removed in the Operating Log.
- Monitor and record the level of fuel in the oil/water separator using the oil/water surface indicator or a semiclear bailer.

6. REFERENCES AND INTERFACES

- Drawings 520030, "SSSTF Plan Sections and Details"
- DOE/ID-10886, *ICDF Complex Operations Wuste Munugement Plan*
- PLN-914, "Waste Tracking Plan."

7. RECORDS

- On-Site Waste Tracking Forms
- IWTS electronic data
- Material Profile records
- Work control data.

Waste Loading and Transportation

Prepared by	Tracking No.
P.J. Jessmore	4.2
Date	Revision
October 31, 2002	1

1. PURPOSE

The purpose of this procedure is to outline waste loading and transportation requirements for CERCLA waste which is being loaded or transported within the ICDF Complex.

2. SCOPE AND APPLICABILITY

This procedure addresses loading and transportation requirements to be used at the, queue(s), storage area(s), treatment unit, SSA, or any time waste is being loaded or transported within ICDF.

3. REGULATORY REQUIREMENTS

40 CFR 264.171, "If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some way that complies with the requirements of this part."

40 CFR 264.173(b), "A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak."

4. EQUIPMENT

- Spill pillows or similar spill materials designed to absorb/contain liquid waste
- Spill equipment necessary to collect soil type waste (e.g., shovel, broom and dustpan)
- Empty waste containers
- Personal protective equipment (e.g., gloves, anti-Cs, steel toed boots, hard hats, etc.)
- Radiation detection instrumentation
- Appropriate container handling equipment, such as a forklift, crane, or drum dolly
- Loading equipment
- Transport vehicle.

5. IMPLEMENTATION

- Prior to loading a container, ensure that the container and container cover are in good condition with no visible tears, cracks, holes, bulges, substantial corrosion, or other damage that could compromise container integrity or allow precipitation to enter the container once in place.

- If a dump truck or roll-on roll-off is used, install the appropriate liner material to prevent a release of hazardous constituents and to prevent contamination of the bed or container.

- Ensure that containers remain closed unless it is necessary to remove or add waste to the container. Containers of waste shall not be opened, handled, or stored in a manner that will cause leakage (40 CFR 264.173(b)).

- Use appropriate slings and lifting devices for packages loaded with a crane. Follow appropriate procedures for the equipment being used.

- If using containers other than roll-odroll-off boxes, configure containers on transport vehicle for safe unloading by a forklift or crane.

NOTE: *If using roll-on/roll-off boxes, the box will already be placed on the transport vehicle prior to arrival.*

- Ensure that container markings are clearly visible for inspection when placed on transport vehicle.

- Ensure containers are labeled with the labels required by the ICDF Complex WAC.

- Ensure containers holding incompatible wastes are separated by proper means (e.g., flammables are separated from ignitables).

- Invoke appropriate spill control measures when a container has been breached.

- Transfer waste from a leaking container to a container with good integrity (40 CFR 264.171).

- Ensure the OWTF is accurate and located inside the transport vehicle. The OWTF must accompany the load.

- Transport load to the appropriate location and record the location on the OWTF.

6. REFERENCES AND INTERFACES

- PLN-914, "ICDF Complex Waste Tracking System Plan."

7. RECORDS

- OWTF

- Material Profile.

Debris Treatment

Prepared by	Tracking No.
K.K. Packard/R.C. Shilkett	4.3.5
Date	Revision
November 7,2002	0

1. PURPOSE

The purpose of this procedure is to provide the operating instructions for the ICDF debris treatment process.

2. SCOPE AND APPLICABILITY

Only debris meeting the definition of hazardous or mixed waste debris can be treated by this procedure. Debris is contained in 2- x 2- x 8-ft and 4- x 4- x 8-ft engineered plywood box assemblies.

3. REGULATORY REQUIREMENTS

- 40 CFR 268.45, Treatment standards for hazardous debris.

4. EQUIPMENT

Debris treatment will be performed in the treatment area or the decon bay of the decon building.

- Portable grout hopper/pump assembly
- Hand power tool for cutting holes in boxes
- Miscellaneous hand tools
- Portland-cement based grout for microencapsulation
- Debris box brace assembly
- Forklift
- Scale for weighing debris boxes pre- and posttreatment.

Grout mixes for the debris treatment process.

	Estimated Batch Weights (per yd^3)	
Material	Mix. No. 1	Mix No. 2
Water	800 lb (96 gal)	433 lb (52 gal)
Cement (Type 1/11)	680 lb	320 lb
Fly ash	1,600 lb	640 lb
Pumice sand	—	1,400 lb
High range water reducer	Approx. 6 lb	Approx. 8 lb

5. IMPLEMENTATION

The following steps will be implemented to treat a container of hazardous or mixed waste debris:

- Verify total weight of each debris box and its contents is recorded on OWTF. Obtain weight and record if unknown.
- Have debris box surveyed and cleared for treatment by radiological control technician.
- Prior to the delivery of cement grout, the containers to be treated will be staged in the immediate vicinity where treatment will take place. Position the hopper/pump assembly and a debris box brace in location treatment will occur. Position and secure the first box to be treated in the box brace.
- Cut two holes on top of box on opposite ends, being sure holes penetrate any container liner material. Holes may be enlarged to access and cut through liner.
- Visually inspect debris contents exposed in access holes to verify debris is as stated on profile.
- Inspect grout to verify consistency using operator judgment. The grout should have a flowable consistency without exhibiting excess water. Reject grout if it does not meet these criteria.
- Insert discharge hose nozzle in one of the holes being sure the nozzle extends below liner.
- Check that the speed setting on the pump is positioned on the slow setting.
- Turn on pump
- Strike the container sides with rubber mallet or use vibrator on outside of box (attached to box brace) while filling to aid grout flow through void spaces in debris.
- Monitor flow of grout into container. Adjust pump speed as necessary. Slow pump speed down as the grout nears the surface of the box.
- Turn pump off when grout is within 4-6 in. of the bottom of holes
- If amount of grout added to box is determined to be less than expected (operator judgment), cut additional hole(s) in box and verify if grout is evenly distributed. Add more grout where needed .
- Allow grouted debris to set overnight. Note: After grouted debris has set, top-off debris box with second layer of grout being sure not to overfill (use a plastic vent sleeve(s) on the hole(s) opposite the grout nozzle as a safe guard to contain any excess grout).
- After final grouting, remove box from brace and place box in storage for later placement into landfill when weather and scheduling permit disposal.
- Weigh box and determine total amount of grout added to box. Record weight on OWTF
- Re-position hopper/pump assembly to treat next debris box and repeat above steps

- When treatment is complete, thoroughly clean hopper/pump assembly. Discharge residual grout from hopper/pump into containers. After suspended matter in rinse water has settled, decant water off into decon bay drain trench.

6. REFERENCES AND INTERFACES

- EDF-1730, "Staging, Storage, Sizing, and Treatment Facility, Debris Treatment Process Selection and Design"
- EDF-2693, "Staging, Storage, Sizing, and Treatment Facility, Waste Box Grouting Frame."

7. RECORDS

- Material Profile sheets
- Integrated waste tracking system electronic records
- Operations log entries
- Work control forms.

Tank Management Requirements

Prepared by	Tracking No.
P.J. Jessmore	4.3.7
Date	Revision
October 31, 2002	1

1. PURPOSE

The purpose of this procedure is to address ICDF tank management requirements, to ensure

- That incompatible waste is not placed in the tank system
- Leaks or spills and the tank system from which they originated, are handled appropriately
- Response actions are performed when problems are identified
- Meet inspection requirements for tanks.

2. SCOPE AND APPLICABILITY

As defined, tank/tank systems include ICDF Complex sumps, oil/water separators and tanks located in storage areas (i.e., aboveground poly tanks in the SSA and/or ICDF tank storage area). This procedure addresses tank systems within the confines of the ICDF Complex (i.e., aboveground poly tanks in the SSA and/or ICDF tank and container storage area, the combined sump, and the tank system composed of the concrete P-trap, oil/water separator, and the pump station) and is separated into general operating requirements, spill/leak requirements, and inspection requirements.

3. REGULATORY REQUIREMENTS

- 40 CFR 262.34, Accumulation Time

4. EQUIPMENT

- Level transducers and alarms
- Spill pillows or similar spill materials designed to absorb/contain liquid waste
- Empty waste containers for spill clean-up
- Personal protective equipment (e.g., gloves, anti-Cs, steel toed boots, hard hats)
- Radiation detection instrumentation.

5. IMPLEMENTATION

General Operating Requirements

- Evaluate the tank system and the characteristics of the waste to ensure compatibility.
- Perform an evaluation to ensure that incompatible wastes are not placed in the same tank.
- Ensure that waste is not placed in an unwashed tank that previously held an incompatible waste.
- Inspect daily for tank integrity.

Spill/Leak Requirements

- Immediately remove from service a tank system from which there has been a leak or spill. Notify ICDF Management.
- Align valves, as appropriate, to prevent flow of additional waste into the tank.
- Isolate tank from other containers within the area to prevent cross contamination.
- Remove waste from tank system and/or secondary containment system unless it can be demonstrated that this is not possible.
- Inspect the system to determine the cause of the release.
- Perform a visual inspection and contain all releases to the environment.
- Remove and properly dispose of any visible contamination to the environment.
- Prepare appropriate notifications, and reports.
- Notify the Agencies for leaks or spills *other than* the following:
  - If the spill/leak is less than or equal to the reportable quantity for the specific compound, and
  - If the spill/leak is immediately contained and cleaned up.
- If a spill/leak has been released to the environment, prepare and submit a report to the Agencies that describes the leak, the volume of the release and the response actions performed.
- Repair or close tank/tank system.

For extensive repairs (e.g., installation of an internal liner, repair of a ruptured primary containment or secondary containment vessel):

- Obtain a certification from an independent, qualified, registered, professional engineer prior to returning the tank to service.
- Return the tank to service

Inspections

- Develop and follow an inspection schedule for those systems that do not have a leak detection system. Inspect above ground portions of tank systems on a daily basis. Tank systems with alarm hnctions will be verified to ensure alarms are functioning through verification of not having a "loss of signal" alarm indicated by the PLC.

- Perform an inspection each day of the following:

  - Aboveground portions of the tank system, if any, to detect corrosion or releases of waste.

  - Overfill control equipment (i.e., level alarms) to ensure they are functioning, through verification of not having a "loss of signal" alarm indicated by the PLC.

  - Review data gathered from monitoring and leak detection equipment to determine if a leak has occurred.

  - The construction materials and the area immediately surrounding the externally accessible portions of the tank system including the secondary containment system to evaluate structural integrity, inspect for erosion, corrosion, or signs of releases from the tank.

  - Waste levels. Ensure waste in primary aboveground tank is below the top of the secondary containment.

  - Labeling. Ensure tanks located in storage areas are properly labeled (i.e., "empty," "potable water," or "CERCLA Waste").

- Perform an annual inspection of cathodic protection systems if present, to ensure that they are functioning properly.

- Perform an inspection or test as appropriate, all sources of impressed current.

- Note all deficiencies/problems resulting from inspections, and notify the appropriate ICDF facility manager.

- Sign and date the inspection document as part of the operating record of the facility and submit to ICDF Document Control.

- Track and record response actions to correct problems for previously identified deficiencies

- The responsible individual for submitting work requests resulting from the inspection will be determined by the facility manager or supervisor.

- The distribution of the inspection report will be determined by the ICDF facility manager.

6. REFERENCES AND INTERFACES

None.

7. RECORDS

- PE Certification of Repairs
- Tank inspections and reports
- Response action work orders.

Waste Shuttle Requirements

Prepared by	Tracking No.
R.G. Hanson	4.3.8
Date	Revision
05/13/02	0

1. PURPOSE

The purpose of this procedure is to address the movement of waste from the ICDF staging area or the scale to the landfill dump face or the evaporation pond, as appropriate.

2. SCOPE AND APPLICABILITY

The scope of this procedure is the routine daily movement of waste from the staging or receiving area at the ICDF to the dump face or the evaporation pond. This procedure applies to bulk soils and debris waste that are dumped at the work face, as well as the containerized waste, PCB waste, asbestos, monoliths, and aqueous waste.

3. REGULATORY REQUIREMENTS

No ARARs identified

4. EQUIPMENT

- Roll-on/roll-off trucks that can pick up waste-filled containers at the staging area and deliver and off-load at the dump face and return the empty container to the staging area
- Dump trucks for dig sites that chose to use them
- Tractor capable of delivering a flatbed trailer loaded with either containers or monoliths to the dump face
- Portable crane, forklift, or front-end loader for off-loading of monoliths and containers from flatbed trucks
- Tanker truck for aqueous waste
- Water truck to dispense water to the haul road and the dumping peninsula at the beginning of operations each day and as needed throughout the day to control dust.

5. IMPLEMENTATION

- The appropriate truck (dependant on the waste form of staged waste) will proceed to the staging area and load the waste containers for delivery to the disposal cell.
- Prior to loading the waste container, the driver will examine the container and the area around the container for evidence of leakage or any other concerns.

- WGS or the driver (if WGS is not present) will verify the bar code on the container matches the OWTF and determine if special considerations exist for waste shipment.

- The driver then proceeds to the disposal cell and backs into position as directed by the off-loading coordinator at the dump face. If the waste is aqueous, the truck proceeds to the off-loading station at the evaporation pond.

- The shipping papers for the load are reviewed by the off-loading coordinator. If all is in order, the container is prepared for off-loading.

- Once the truck has been off-loaded, a survey for radiological contamination is performed around the rear container gate, the rear tires, and the rear of the truck frame. If background is high, the truck will be moved to a lower background area where a radiological survey can be performed. If clean, the truck is cleared to take the empty container back to the staging area and off-load. If contamination is detected, the truck will be decontaminated in the disposal cell area or the decon building.

- The OWTFs are collected by the off-load coordinator and are given to the appropriate data entry person at the end of the shift for entry into the data tracking system. The location data must be entered into the Waste Tracking System before the end of the next operating day.

- The driver then proceeds to the full container section of the staging area and begins the process over or leaves the ICDF to return to the remediation site.

6. REFERENCES AND INTERFACES

- PLN-914, "ICDF Complex Waste Tracking System Plan."

7. RECORDS

- The OWTF will be entered into the electronic record of waste disposal data.

- The hard copy of the shipping papers will be filed in the admin trailer.

Tank Off-Loading at the Evaporation Ponds

Prepared by	Tracking No.
R.C. Shilkett	4.6.1
Date	Revision
November 18,2002	0

1. PURPOSE

Transfer of liquid waste from various container configurations to the evaporation pond cells via the CPP-2706 truck unloading station and CPP-1798 crest pad building.

2. SCOPE AND APPLICABILITY

This procedure will apply to any container unloading activities at CPP-2706.

3. REGULATORY REQUIREMENTS

None identified.

4. EQUIPMENT

- Flexible hoses, fittings, and valves as required to unload various containers
- Transfer pump and suction line
- In-line filter, 30-micron pore size.

5. IMPLEMENTATION

The unloading facility is designed to accommodate a variety of containers. Regardless of container size, there will two primary methods for unloading–gravity flow or pumping. A 30-micron in-line filter will be available should it be required for ICDF-generated wastes.

- Gravity flow unloading
  - Verify that the Combined Sump SU-CD-107 pump is in automatic operating mode.
  - Record the initial flow totalizer for FT-CD-207.
  - Don appropriate PPE.
  - Attach the flexible hose from the tank to the CPP-2706 collection sump.
  - Open the discharge valve on the tank to the sump. For a tank greater than 400-gal capacity, the operator must control the flow to not exceed the capacity of the CPP-2706 sump or pump P-CD-207.

- When the tank is empty, close the discharge valve and rinse the hose into the sump with raw water.
- Doff PPE.
- Observe pump P-CD-207 operation. Record the final flow total from FT-CD-207
- Record the gallons delivered on the OWTF and in the Operating Log

- Discharge pump unloading
  - Verify that the valve alignment in CPP-1798 is correct for pump discharge
  - Record the initial flow totalizer reading for FT-CD-327
  - Don appropriate PPE.
  - Establish a connection from the tank to valve SWV-CD-48 via the unloading pump.
  - Open valve SWV-CD-48.
  - Start the unloading pump and run until the tank is empty.
  - Stop the pump and close valve SWV-CD-48
  - Remove the pump or suction tube from the tank and let it drain into the CPP-2706 sump. Rmse the hose and pump (if needed) into the sump.
  - Disconnect the hose from SWV-CD-48 and rinse the hose into the CPP-2706 sump.
  - Doff PPE.
  - Record the final flow totalizer reading on FT-CD-327
  - Record the gallons delivered on the OWTF and in the Operating Log
- RCT surveys the tank and truck for free release from the facility
- The CPP-2706 sump area is also surveyed to confirm that there is no radiological contamination in uncontrolled areas.

6. REFERENCES AND INTERFACES

- Drawing IN-202, "Evaporation Ponds P&ID"
- Drawing P-203, "Evaporation Ponds Leak Detection/Leachate Collection Systems Plan."

7. RECORDS

- IWTS electronic records.
- Record the volumes of waste and OWTF numbers in the Operating Log.

Aqueous Waste Transfer From Decon/Treatment Building

Prepared by	Tracking No.
R.C. Shilkett	4.6.2
Date	Revision
November 2.2002	1

1. PURPOSE

This procedure addresses the transfer of aqueous liquid wastes generated at the SSSTF decon building to the ICDF evaporation ponds via the evaporation pond crest pad building.

2. SCOPE AND APPLICABILITY

This procedure includes aqueous wastes from the decon building generated by the following processes:

- Soil stabilization processing and equipment cleaning
- Debris treatment processing and equipment cleaning
- Equipment decontamination and cleaning
- Development water with total suspended solids that cannot be discharged directly into the evaporation ponds.

3. REGULATORY REQUIREMENTS

No ARARs identified

4. EQUIPMENT

- Aqueous wastes, regardless of source in the decontamination building, will pass through an oil/water separator (OT-YDJ-101) and be collected in the decon building pump station sump (MAH-YDJ-SW-498).
- Two 2-hp "grinder" wastewater pumps (P-YDJ-203 and P-YDJ-204) will be located in the pump station sump.
- The pumps will be controlled by the ICDF I&C system and an ultrasonic monitor located in the sump.
- Any leaks in the carrier line to the CPP-1798 evaporation pond crest pad building will be detected and collected at the double containment leachate pipe sump (MAH-CD-499).
- Liquid waste flow data will be measured by FT-CD-330 in CPP-1798. The flow rate and total flow may be observed in the crest pad building and the admin trailer (CPP-1689).
- A sample port is located off valve SWV-CD-56 in CPP-1798.

- There will be an alarm function for high and low sump levels in pump station sump and leak detection in sump. These alarms will display in the admin trailer. A single "ICDF trouble" alarm will also be displayed in a control room at INTEC that is continually staffed.

5. IMPLEMENTATION

- There are four sources of waste water from the Decon building: wash down water from the treatment area, decon water from the decon bay, run-off water from the contaminated equipment storage pad, and purge/development water discharged at the decon building due to high total suspended solids.

- The liquid waste transfer system is designed to operate in an automatic mode. Manual operation of the two sump pumps is available from the admin trailer.

- Set points for operation are shown in Table 5-1

Table 5-1. Pump Station Sump Operations Set points.

Depth	Set Point Function
0 ft.	Bottom of Sump
0.5	Low Level Alarm
1.0	Both pumps OFF
4.5	First pump ON
4.8	Second Pump starts, both pumps ON
5.0	High Level Alarm

- Valve alignment will be established from transfer of waste to one of the cells of the evaporation pond. The only valve alignment changes that will be required will be to change the initial configuration (using valves SWV-CD-54 and SWV-CD-58 in the evaporation pond crest pas building) to select either the east or west evaporation cell for waste destination.

- A sample port is available off of SWV-CD-56. Manual operation of one of the pumps may be required to obtain a waste sample.

- The I&C system will be programmed to archive the pump station sump levels and the amount of wastewater pumped on a routine basis.

6. REFERENCES AND INTERFACES

- Drawing 520031, "INTEC SSSTF (Pump Station) Details and Sections"

- Drawing IN-202, "ICDF Evaporation Ponds P&ID"

- Drawing P-207, "ICDF Leak Detection/Leachate Collection Sections and Details."

7. RECORDS

- Weekly pump station sump levels and volumes pumped.

Liquid Transfers Between Evaporation Pond Cells

Prepared by	Tracking No.
R.C. Shilkett	4.6.3
Date	Revision
May 8,2002	0

1. PURPOSE

The purpose of this procedure is to describe how to transfer of part, or the entire, contents of one evaporation pond cell to the other to support ICDF operations or maintenance requirements.

- Transfer of liquids from one evaporation pond cell to the other for purposes such as:
  - Leaking of a evaporation pond liner
  - Routine maintenance of the cell liner

    Solids removal
  - Balancing the level in the cells or consolidating volume in one cell
  - Reducing the risk of wave overtopping
  - Emptying a cell for liner inspection/repair.

2. SCOPE AND APPLICABILITY

This procedure will be applicable whenever liquid from one cell is transferred to the other cell

3. REGULATORY REQUIREMENTS

40 CFR 264.221(g), "A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave actions; rainfall; run-on; malhnctions of level controllers, alarms, and other equipment; and human error."

4. EQUIPMENT

- High-volume leachate pump (~100-gpm), flexible hose, and power cable. Pump operation is manual start/stop.
- Apparatus for installing the high-volume pump in the cell to be pumped. This will require the use of a truck-mounted crane or similar equipment.
- There is no flow or level instrumentation associated with this process

5. IMPLEMENTATION

- Truck unloading at the evaporation ponds can be performed while liquid is being transferred between cells.
- Other automatic leachate transfers will not impact, or be impacted by, the cell transfer process
- Ensure that the valve (SWV-CD-54 or SWV-CD-58) to the cell that will receive the liquid is open and the valve to the cell that will be pumped is closed.
- Open the valve on the discharge line of the cell to be pumped and start the pump. Note the time that the pump was started.
- When the desired amount of liquid has been transferred from the cell, stop the pump, close the discharge valve, and note the time the pump was stopped.
- Depending on the operating scenario, the pump may be left in place or removed.
- Return the system to normal automatic operation by ensuring that valve SWV-CD-54 or SWV-CD-58, the valve to the cell that was pumped, is closed.
- Package and store the pump and flexible hose as directed by the RCT in the evaporation pond crest pad building with appropriate secondary containment.
- Calculate the volume of liquid transferred by multiplying the number of minutes the pump operated by pump rate, or by calculating the change in cell volume.
- Record in the Daily Operating Log the approximate volume of liquid transferred from one cell to the other cell of the evaporation pond.

6. REFERENCES AND INTERFACES

- Drawing IN-202, "Evaporation Ponds P&ID."

7. RECORDS

- Maintain a record of the reason for the transfer, volume of liquids transferred, date and time of the transfer and the beginning and final volumes of both cells.

Evaporation Pond Cell Wash Down

Prepared by	Tracking No.
R.C. Shilkett	4.6.4
Date	Revision
June 3,2002	0

1. PURPOSE

The purpose of this procedure is to prevent the airborne release of contaminants from the evaporation pond cell liner by washing down any sediment on the exposed portions of the liner on a regular basis as determined by evaporation rates. This procedure may also be implemented to maintain evaporation pond cell levels during times of high evaporation rates.

2. SCOPE AND APPLICABILITY

This procedure applies to the evaporation pond cells during the time period of the year that allows water to be utilized.

3. REGULATORY REQUIREMENTS

40 CFR 61.92, "Emissions from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr."

IDAPA 58.01.01.650, "The purpose of Sections 650 through 651 is to require that all reasonable precautions be taken to prevent the generation of hgitive dust."

IDAPA 58.01.01.651.02, "Application, where practical, of asphalt oil, water or suitable chemicals to, or covering of dirt roads, material stockpiles, and other surfaces which can create dust."

4. EQUIPMENT

- Temporary piping, hoses, nozzles, and sprinklers may be utilized. The primary raw water source will be valve RWV-CD-2. If additional water is needed, valve RWV-CD-5 may also be used.
- A water truck with a remote-controlled nozzle may also be used.
- The volume of water used from valves RWV-CD-2 and/or RWV-CD-5 will be measured by FT-CD-210.

5. IMPLEMENTATION

The wash down technique, and amount of water used, will vary depending upon evaporation rates and the amount of aqueous waste being introduced to the cells.

- Raw water valve RWV-CD-2 is located at the extreme south end between the evaporation pond cells. Temporary surface piping from RWV-CD-2, with adequate hose bibs, will be laid around the perimeter of the cells to allow easy hose access to all liner surfaces.

- As needed, exposed areas of the cell liners will be sprayed to wash any evaporation sediment to a flooded portion of the cell (toward the sump area). **A** water truck operating from the perimeter (exterior) roads of the evaporation pond cells may be used to supplement the hose bib water [40 CFR 61.92].

- Based upon climatic conditions, the system will also be used to maintain a minimum liquid level in each cell using the same wash down technique.

- The volume of water added to the cells will be displayed on flow meter/totalizer FT-CD-2 10 that can be read at the admin trailer or the evaporation ponds crest pad building. The amount of water added daily will be recorded in the Operating Log.

6. REFERENCES AND INTERFACES

- Drawing P-201, "Leachate Piping Plan"

- Drawings IN-202, "Evaporation Ponds P&ID"

- EDF-2236, "NESHAP Compliance Demonstration for the ICDF Complex."

7. RECORDS

- Record the amount of wash down/makeup water used daily in the Operating Log

Cleaning of the Evaporation Pond Low-Point Sumps

Prepared by	Tracking No.
R.C. Shilkett	4.6.5
Date	Revision
October 28, 2002	0

1. PURPOSE

The purpose of this procedure is to address the removal and disposition of accumulated sludge, sediment, and debris from the ICDF evaporation ponds.

2. SCOPE AND APPLICABILITY

This procedure applies to both ICDF evaporation ponds

3. REGULATORY REQUIREMENTS

None identified.

4. EQUIPMENT

- Submersible sump pump for transfer of liquid above the sediments
- Positive displacement pump for removal of sediments and liquid
- Collection containers for sediments and liquids
- Crane for handling waste containers
- Absorbents, if needed, as specified by the WGS technical specialist
- Miscellaneous hand tools.

5. IMPLEMENTATION

The evaporation pond low-point sumps will be cleaned as needed to maintain pond dead space storage volume and optimize the use of make-up water to keep sediments covered with water. As a general guidance the ponds will be cleaned when approximately 12 in. of material (10-15 yd^3) have accumulated in the 20- x 20-ft low-point area to minimize the amount of sediment that is handled at one time. A combination of operating knowledge and visual operation will be used to determine the approximately 12-in. depth. However, the ponds are capable of storing a significantly greater volume of sediments in the dead space storage area which provides operational flexibility on when the ponds must be cleaned out. (Note that each pond has about 500,000 gal of dead space storage, with an estimated worst-case storage requirement of 300,00 gal.)

- Perform preliminary sediment sampling and determination of waste disposition path per direction of and the Material Profile Guidance and the ICDF Complex WMP.

- Transfer pond inventory, as needed, to the other evaporation pond to facilitate sediment removal utilizing the procedure for liquid transfers between evaporation pond cells.

- Prepare work area as directed by the RWP and SWP

  - Samples must be collected from the sludge to ensure LDR compliance.

- Remove sediments and place in waste containers by one of the following methods:

  - The sediments may be pumped as a slurry and dewatered prior to placement in waste containers. The excess water would be cycled back into the pond cell being cleaned to slurry more sediment or be placed in the other evaporation pond cell.

  - Sediments may be removed manually and placed in waste containers with absorbent.

- WGS will prepare the appropriate waste tracking documentation in accordance with the Waste Tracking Plan (PLN-914).

- Package equipment and restore work area per RCT directions. Store packaged equipment in the radioactive material storage area of the decon building.

- Dispose of waste as determined appropriate by WGS in accordance with the WMP

- Record activities and amounts of sediments removed in the Operating Log.

6. REFERENCES AND INTERFACES

- Drawing C-203, "Evaporation Pond Area Final Grading Plan," and P-203, "Evaporation Pond Leak Detection/Leachate Collection System Plans"

- DOE/ID-10886, *ICDF Complex Operations Wuste Munugement Plan*

- PLN-914, "Waste Tracking Plan."

7. RECORDS

- OWTFs

- IWTS electronic data

- Material Profile records

- Work control data.

Evaporation Pond Cell Liquid Level Monitoring

Prepared by	Tracking No.
R.C. Shilkett	4.6.6
Date	Revision
November 2,2002	1

1. PURPOSE

The purpose of this procedure is to describe how to track, on a regular basis, the inventory of each evaporation pond cell. This information will be used to monitor the performance of the cells. This information will also be utilized to manage cell inventories to meet freeboard requirements.

2. SCOPE AND APPLICABILITY

This procedure applies to the evaporation pond cells throughout the year

3. REGULATORY REQUIREMENTS

- 40 CFR 264.221(g), **"A** surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall, run-on; malhnctions of level controllers, alarms, and other equipment; and human error."

4. EQUIPMENT

Depth marker staff will be placed in the cells to allow visual observation of cell levels.

5. IMPLEMENTATION

Following the completion of cell construction, a depth marker staff will be placed in each cell. The as-built drawings will be used to calculate the cell volume that corresponds to particular depths.

- On a regular basis, observe and record the level in each cell [40 CFR 264.221(g)].

- Compare any change in level from the previous reading to the amount of leachate and/or other liquid wastes introduced to the cell (pump station, truck loading/unloading station), makeup/wash down water added, rainfall amount, liquid transfers between cells, leak detection chamber liquid pumped into the cell, and the expected evaporation rate for the time period.

- Provide the comparison information (pond level must be more than 2 ft of freeboard) to ICDF Operations management to determine if any response actions are required. Response actions may include addition of makeup water, transfer of inventory from one cell to another or a tank, or hrther investigations to determine if a cell might be leaking.

6. REFERENCES AND INTERFACES

- Overview 4.6.2, "Aqueous Waste From Decon/Treatment Building"
- Overview 4.6.3, "Liquid Transfers Between Evaporation Pond Cells"
- Overview 4.6.4, "Evaporation Pond Cell Wash Down"
- Overview 4.6.7, "Evaporation Pond Leak Detection Chamber Monitoring and Liquid Transfers"
- Overview 4.8.1, "ICDF Landfill Leachate Monitoring and Transfer to the ICDF Evaporation Pond'
- Overview 4.12.8, "Liquid Transfers from an Evaporation Pond to a Tank."

7. RECORDS

- Record the Evaporation Pond cell levels in the Operating Log
- Record make-up water additions.

Evaporation Pond Leak Detection Chamber Monitoring and Liquid Transfer

Prepared by	Tracking No.
R.C. Shilkett	4.6.7
Date	Revision
Mav 8.2002	0

1. PURPOSE

The purpose of this procedure is to describe how to monitor leakage through the sacrificial geomembrane, primary geomembrane and geosynthetic clay liners of the evaporation pond cells. Implement appropriate actions if the ALR has been exceeded. Specifically, the following will be addressed:

- Monitor the two leak detection chambers of the evaporation ponds and remove measurable amounts of liquid as necessary.
- Monitor, record, and archive liquid levels in the leak detection chambers and the volumes transferred from each chamber to the evaporation pond at least once each week.
- Convert the volume removed from each leak detection sump to an average daily leakage rate and compare that to the ALR. The ALR for an evaporation pond is calculated to be 1,590 gallons per day (EDF-ER-280, "Landfill Leachate Collection System Design Analysis").
- Implement the Evaporation Pond Action Leakage Rate Response Plan (4.12.7) if the ALR has been exceeded.

2. SCOPE AND APPLICABILITY

This procedure applies to the leak detection sumps of both evaporation pond cells.

3. REGULATORY REQUIREMENTS

40 CFR 264.221(c)(3) "An owner or operator (of a surface impoundment) shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner."

4. EQUIPMENT

- Level transducers are mounted in the case of the low-volume (10-gpm) pumps in the west evaporation pond leak detection chamber (SU-CD-101) and east evaporation pond leak detection chamber (SU-CD-102). There are alarm hnctions for high and high-high chamber levels. The alarms will display locally and at the control panel in the admin trailer. A single "ICDF trouble" alarm will also be displayed in a control room at INTEC that is continually staffed. Set points will be established during system operational testing.
- The evaporation pond crest pad building has a separate sump (SU-CD-106) to collect any leaks from connecting piping or fittings that drains to the combined sump (SU-CD-107). The combined

sump has a pump with level switches for start and stop and an alarm for high-high sump level that displays locally and at the admin trailer. This alarm also feeds the "ICDF trouble" alarm at INTEC.

- Pump cycling is automatic. Starting and stopping can also be controlled as a manual operation. Each discharge line has a flow meter/totalizer with a display at the crest pad building control panel in the admin trailer.

- The liquid removed from either chamber can be sampled at the sample port off of valve SWV-CD-56.

5. IMPLEMENTATION

- The leak detection chamber transfer system for each sump is designed to operate in an automatic mode. Manual operation of both pumps is available by a hand switch. For "hand" operation, document flow meter/totalizer readings and any hand calculations.

- Valve alignment will not differ with the exception of valves SWV-CD-54 and SWV-CD-58 that are used to select either the west or east evaporation pond as the pump discharge destination.

- A sample port is installed off of valve SWV-CD-56 in the evaporation pond crest pad building. Manual operation of a pump may be required to obtain a sample.

- The instrumentation and control system will be programmed to archive the leak detection chamber level and volume of liquid pumped from each chamber on a weekly basis.

- Each discharge line has a flow meter/totalizer with display at the local control panel and the administration trailer.

- Chamber levels and liquid volumes transferred will also be recorded in the facility Operating Log.

- Convert the weekly volume removed from each leak detection chamber to an average daily leakage rate and compare that to the calculated action leakage rate. Implement the Evaporation Pond Action Leakage Rate Response Plan (4.12.7) if the ALR has been exceeded.

6. REFERENCES AND INTERFACES

- Drawing IN-202, "Evaporation Ponds P&ID"

- Overview 4.12.7, "Evaporation Pond Action Leakage Rate Response Plan"

- EDF-ER-280, "Landfill Leachate Collection System Design Analysis."

7. RECORDS

- Weekly sump volumes

- Weekly volumes removed from each sump

- Conversion of the weekly removal volume to a daily leakage rate and comparison with the ALR.

ICDF Landfill Leachate Monitoring and Transfer to the ICDF Evaporation Pond

Prepared by	Tracking No.
R.C. Shilkett	4.8.1
Date	Revision
November 2.2002	1

1. PURPOSE

This procedure will provide instructions for handling and monitoring landfill leachate and the documentation of this operating data. Specifically this procedure will ensure that the following elements are implemented:

- Ensure that the hydraulic head over the primary liner of the landfill does not exceed 30 cm (1 ft) by automatically transferring the leachate from the leachate sump.
- Ensure the sumps are monitored at least once each week during the active life and closure period and that this information is recorded and archived.
- Ensure that the leachate volumes are assessed at least once each week during the active life and closure period and that this information is recorded and archived.
- Calculate the daily leakage rate from the LDRS and compare the daily leakage rate and weekly leak detection sump volumes to the ALR limits for the landfill. (Immediately notify the facility manger and implement the Landfill Action Leakage Rate Response Plan (4.12.6) if the ALR has been exceeded). The calculated ALR for the LDRS is 1,380 gal per day.
- Ensure that monitoring, measuring, recording, and archiving of the leachate levels in the sumps and the volumes transferred from the leachate sump occurs. This is performed at least once each month after the final cover is installed.

2. SCOPE AND APPLICABILITY

This procedure will apply to leachate transfers between the landfill sumps and the evaporation pond cells. It also addresses the requirement for calculating the average daily flow rate, comparison of this calculated average flow rate to the ALR, and identifies the records required for these activities.

3. REGULATORY REQUIREMENTS

- 40 CFR 264.301(c)(2) "...ensure that the leachate depth over the (landfill) liner does not exceed 30 cm (one foot)."
- 40 CFR 264.301(c)(3)(v) "...each removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed."
- 40 CFR 264.302(a) "...The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head exceeding 1 foot..."

- 40 CFR 264.302(b) "To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under §264.303(c) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post closure care period...."

4. EQUIPMENT

- Level transducers are mounted inside the case of the low-volume pumps in the leachate collection/recovery (SU-CD-103), leak detection (SU-CD-104), and secondary leak detection (SU-CD-108) sumps.

- Each sump will have a low-volume (10-gpm) pump. The leachate collection/recovery sump will also have a high-volume (100-gpm) pump.

- Each discharge line has a flow meter/totalizer with display at the control panel in the admin trailer.

- There are alarm hnctions for a high-high sump levels and a failure to start for each pump. The alarms will display locally and at the control panel in the admin trailer. A single "ICDF trouble" alarm will also be displayed in a control room at INTEC that is continually staffed.

- The landfill crest pad building has a separate sump (SU-CD-105) to collect any leaks from connecting piping or fittings with a small pump that discharges to the leachate collection/recovery sump. This pump has level switches for start and stop and an alarm for high-high sump level that displays locally and at the admin trailer. This alarm also feeds the "ICDF trouble" alarm at INTEC.

5. IMPLEMENTATION

- The leachate transfer system for each sump is designed to operate in an automatic mode. Manual operation of all pumps is available by a hand switch.

- Valve alignment will be established for transfer to one of the cells of the evaporation pond. The only valve alignment changes that will be required will be to change the initial configuration (using valves SWV-CD-54 and SWV-CD-58) to select either the east or west evaporation cell for leachate destination.

- Sampling ports are installed on all leachate discharge lines in the landfill crest pad building. Manual operation of a pump would be required to obtain a leachate sample.

- The instrumentation and control system will be programmed to archive the sump level and volume of leachate pumped from each sump on a weekly basis.

- Sump levels and leachate volumes will also be recorded weekly in the Facility Operating Log.

- Calculate the weekly flow rate for the leak detection sumps to an average daily flow rate in gallons/acre/day and also record this value in the facility Operating Log.

- Compare the daily leak detection flow rate to the calculated action leakage rate. If the daily rate is equal or greater than the action leakage rate, then refer to Landfill Action Leakage Rate Response Plan (4.12.6).

6. REFERENCES AND INTERFACES

- Drawing IN-201, "Landfill P&ID"
- Drawing IN-202, "Evaporation Ponds P&ID"
- Overview 4.12.6, "Landfill Action Leakage Rate Response Plan"
- EDF-ER-269, "Leachate Generation Study."

7. RECORDS

- Weekly leachate sump levels and leachate volumes pumped
- Action leakage rate calculations and comparisons.

Haul Road Management

Prepared by	Tracking No.
R.G. Hanson	4.9.1
Date	Revision
June 4, 2002	0

1. PURPOSE

This procedure addresses the management of the haul roads that lead from the queuing area to the dump face in the landfill. Included are the modification of haul roads as the dump face moves in the landfill as well as routine management of the haul roads.

2. SCOPE AND APPLICABILITY

This procedure will provide direction for

- Extension or movement of haul roads as a result of movement of the dump face peninsula
- Routine grading of the haul roads
- Radiological survey of the haul road to identify the presence of waste spills
- Maintenance of signage to control traffic on the haul roads
- Dust control.

3. REGULATORY REQUIREMENTS

- IDAPA 58.01.01.650 – Idaho Fugitive Dust Emissions
- IDAPA 58.01.01.651 – Idaho Fugitive Dust Emissions
- IDAPA 58.01.01.585 – Rules for Control of Air Pollution in Idaho
- IDAPA 58.01.01.586 – Rules for control of Air Pollution in Idaho
- 40 CFR 61.92, "Emissions of radionuclides to the ambient air from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/year."

4. EQUIPMENT

The following equipment will be required to provide for the necessary management of the haul road

- A truck will be needed to transport clean fill to the haul road modification location.

- A loader will be needed to load the clean fill into the truck.
- A grader will be required to spread the clean fill and road base for haul road modification. The grader will also be used routinely to keep the haul road surface smooth.
- A compactor will be required to compact the road base and clean fill.
- A water truck will be required to maintain dust control while landfill operations are ongoing, as necessary.

5. IMPLEMENTATION

The design of the ICDF Complex calls for waste to be transported from the queuing area to the landfill dumping peninsula by means of a clean haul road. As the dump face moves from the initial location in the southwest corner of the landfill toward the north face, the haul road will be extended to access the new dump peninsula. The extended haul road and new peninsula consists of approximately 18 in. of clean compacted granular fill from the permanent stockpile for the Complex. The material will be placed in 6-in. compact lifts. If the material in the permanent stockpile is not suitable for roads, material will be imported. The haul road will be maintained with a width of 30 ft and a maximum slope of 10%. The haul road will be graded and maintained during landfill operations as required.

As new lifts are established and dump peninsulas are developed on the new lift, access to the new lift will be gained by extension of the haul road system to the new peninsula. Traffic control signage will be posted on all haul roads. Signage will be self-standing.

A water truck will be used as needed to apply water to the haul roads to control dust. Spills that are identified on the haul roads will be evaluated by the RCT and appropriate cleanup of the spill material and area will be accomplished with direction from the RCT and through implementation of the INTEC Spill Response Plan (Appendix G to PLN-114-2).

6. REFERENCES AND INTERFACES

- EDF-ER-286, "Waste Placement Plan"
- PLN-114-2, Appendix G, "INTEC Spill Response Plan"
- EDF-2236, "NESHAP Compliance Demonstration for the ICDF Complex."

7. RECORDS

- Completed weekly inspection reports.

Dust/Contamination Control Requirements

Prepared by	Tracking No.
R.G. Hanson	4.9.3
Date	Revision
October 31, 2002	1

1. PURPOSE

The purpose of this procedure is to address the ICDF requirements for dust/contamination control.

2. SCOPE AND APPLICABILITY

This procedure addresses the ICDF operational requirements to provide and maintain a system to control airborne dust and contaminates from the landfill and active areas during operations and during off-hours through the use of a variety of control mechanisms.

3. REGULATORY REQUIREMENTS

- 40 CFR 264.301(j): "If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal"
- IDAPA 58.01.01.585 – Rules for Control of Air Pollution in Idaho
- IDAPA 58.01.01.586 – Rules for Control of Air Pollution in Idaho
- 40 CFR 61.92, "Emissions of radionuclides to the ambient air from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/year."

4. EQUIPMENT

- Water truck to apply water to control dust emissions on access roads, dump peninsula, and the operations layer subject to operational use
- Water truck or temporary water line to the active dump face with flexible hose and nozzle
- Environmentally accepted dust suppressant and application equipment (i.e., New Waste Concepts: ProGuard **SB** and ConCover SW, Landfill Service Corp.; Posi-shell, Standard Tack and Mulch Technology; or equivalent).

5. IMPLEMENTATION

- As required during the operational day, water or dust suppressant will be applied to access roads and landfill traffic areas, including the dump face area, to control dust.

- As needed, a soil fixative will be applied to the dump face, all disturbed areas of the waste surface, disturbed areas of the operations layer, the dump face peninsula, and access roads.

- Water will be applied to the waste being compacted and the waste being dumped at the dump face. **A** minimal amount of water will be applied to prevent ponding of water in the landfill. The purpose for the addition of water to the waste upon dumping is to control dust and airborne contamination and to aid proper compaction. Water will be provided by a water truck or temporary and movable piping located near the crest pad building. No provision is available for monitoring the quantity of water applied. Once sufficient water has been added, application will cease until hrther application is required.

- Water lines will be checked for leaks and repairs made as soon as possible.

- For areas where no traffic is expected and for waste surfaces, a soil stabilization product will be applied as necessary to provide temporary stabilization of the surface.

- As part of winterization activities, a soil stabilization product (i.e., ConCover or equivalent) expected to last 6 months, will be applied over disturbed areas of the landfill to control contamination.

6. REFERENCES AND INTERFACES

- EDF-2236, "NESHAP Compliance Demonstration for the ICDF Complex."

7. RECORDS

- Notation will be made in the logbook that fixative was applied, along with the location and date.

Soil Fixative Application

Prepared by	Tracking No.
P. J. Jessmore/R.C. Shilkett	4.9.3a
Date	Revision
November 7,2002	0

1. PURPOSE

The purpose of this procedure is to describe how to mix and apply the selected alternative daily and winter cover at the ICDF Complex.

2. SCOPE AND APPLICABILITY

This procedure is applicable to the use of a commercially acceptable soils fixative that may be applied to disturbed areas of the landfill to stabilize soil and control dust. This does not preclude the use of clean soil as a landfill cover if appropriate. ConCover **SW** or a similar product will be applied to portions of the landfill and other areas as determined by ICDF Operations, and as part of seasonal shutdown. ProGuard **SB** or similar product is expected to be protective for 7-10 days. ConCover **SW** or a similar product is expected to be protective for 3-6 months in undisturbed conditions (i.e., absence of traffic in sprayed area).

3. REGULATORY REQUIREMENTS

- 40 CFR 264.301(j): "If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal"
- IDAPA 58.01.01.585 – Rules for Control of Air Pollution in Idaho
- IDAPA 58.01.01.586 – Rules for Control of Air Pollution in Idaho
- 40 CFR 61.92, "Emissions of radionuclides to the ambient air from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/year."

4. EQUIPMENT

- Application unit (e.g., ConCover All Purpose Spray [CAPS] Machine, 900-gal capacity)
- Vehicle equipped with a heavy-duty eye hitch and capable of towing a 15,000-lb trailer over uneven terrain.

5. IMPLEMENTATION

ProGuard **SB** and ConCover **SW** (or similar products) are both a blend of polymers and recycled fibers. When mixed with water, they form a slurry that can be sprayed. ProGuard **SB** will be used as a short-term cover (7-10 days) for disturbed areas and ConCover **SW** will be used for long-term

(3-6 months) coverage. The CAPS machine cannon is capable of applying a full 700-gal batch in about 12 minutes. The machine also has a 200-ft application hose for manual spraying of the cover material.

- Application of ProGuard SB (or similar products) for short-term dust control

  - Determine square footage of area to be covered. One bag of ProGuard SB (40 lb) will cover approximately 1,500-1,700 ft^2 with a layer 1/8 in. to 1/4 in. thick. It is anticipated that about 7,500 ft^2 may be treated with each application (five bags).

  - Start the diesel engine of the CAPS machine and allow it to come up to operating temperature.

  - Check the 65-gal capacity flush tank and fill with water if necessary

  - Open the CAPS machine mix tank hatch and add the proper volume of water based on a ratio of 60 gal of water per bag of ProGuard SB (300 gal for five bags) to be applied.

  - Set the hydraulic-powered agitator at half-speed. Break the contents of each ProGuard SB bag into two or three "chunks" and add them to the mix tank.

  - When the required number of bags have been added, close and secure the hatch. Bring the agitator to maximum speed and mix for a minimum of 30 minutes. If the blend is not applied within an hour, the agitator may be shut off, but should be run for at least 5 minutes to re-suspend the solids before application. ProGuard SB may be kept in the mixing tank for 2-3 days without detrimental effects to the slurry.

  - Position the CAPS machine at landfill dump face as directed by the field supervisor. Using the "long distance" nozzle, apply the ProGuard SB slurry starting at the most distance area of disturbed soil and working closer to the unit. ProGuard SB is green in color for easy identification of covered areas. (Change nozzles for shorter distance and wider spray pattern as necessary.)

  - When application is complete, flush the mixing tank and nozzle system with water from the flush tank. Spray the rinse water on an area as directed by the field supervisor.

  - Return the CAPS machine to its storage location. Document the grid locations treated in the Operations Log.

- Application of ConCover **SW** (or similar product) for long-term dust control

  - Determine square footage of area to be covered. One unit of ConCover **SW** [(one "A' bag (50 lb) and one "B" bag (35 lb)] will cover approximately 1,000-1,200 ft^2 with a layer 1/8 in. to 1/4 in. thick. A full 700-gal batch will cover 7,000-8,400 ft^2.

  - Application of ConCover **SW** will be over grid areas where additional placement of waste will not occur for more than 10 days and over all placement areas at the end of the waste placement season in lieu of a soil cover. Use of the 200-ft application hose may be required. If the hose will be used, it must be placed in a plastic sleeve for contamination control. For multiple batches, it may be advantageous to prepare batches at the point of application (landfill cell).

- Start the diesel engine of the CAPS machine and allow it to come up to operating temperature.

- Check the 65-gal capacity flush tank and fill with water if necessary.

- Open the CAPS machine mix tank hatch and add the proper volume of water based on a ratio of 100 gal of water per "unit" of ConCover **SW** (a full batch is 700 gal for seven units) to be applied.

- Set the hydraulic-powered agitator at half-speed. Break the contents of each ConCover **SW** "B" bag into two or three "chunks" and add them to the mix tank. After all "B" bags have been added, add the required number of "A' bags.

- When the required number of bags have been added, close and secure the hatch. Bring the agitator to maximum speed and mix for a minimum of 30 minutes. If the blend is not applied within an hour, the agitator may be shut off, but should be run for at least 5 minutes to resuspend the solids before application. ConCover **SW** may be kept in the mixing tank for 2-3 days without detrimental effects to the slurry.

- Position the CAPS machine at the application point as directed by the field supervisor. Using the "long distance" nozzle, apply the ConCover **SW** slurry starting at the most distance area of disturbed soil and working closer to the unit. ConCover **SW** is also green in color for identification of covered areas. (Change nozzles for shorter distance and wider spray pattern as necessary.)

- A second layer of ConCover **SW** may need be to applied from an opposing angle to give complete coverage if the area is not a fairly even surface. Use of the application hose may be necessary.

- Application using the hose requires an operator at the CAPS machine to control discharge volume/pressure to assist the operator at the hose nozzle.

- When application is complete, flush the mixing tank and nozzle system with water from the flush tank. Spray the rinse water on an area adjacent as directed by the field supervisor.

- Return the CAPS machine to its storage location. Document the grid locations treated in the operations log.

6. REFERENCES AND INTERFACES

- Overview 4.9.3, "Dust/Contamination Control Requirements."

7. RECORDS

- Operating log entries.

Landfill Waste Off-Loading/Placement Requirements

Prepared by	Tracking No.
R.G. Hanson	4.9.5.1
Date	Revision
October 31, 2002	1

1. PURPOSE

The purpose of this procedure is to address the off-loading, placement, and in-cell grouting (if necessary to minimize void space) of waste shipments received at the ICDF. Each of the waste forms identified in the ICDF WAC will be addressed:

- The off-loading of each waste form type will be presented.
- The placement procedure will be summarized for each of the identified waste form types.
- In-cell grouting will be discussed.

2. SCOPE AND APPLICABILITY

This procedure is applicable to all waste shipments received at the ICDF that are disposed in the landfill. Specifically, the following waste forms are addressed:

- Soils
- Wooden or fibrous containers
- Steel containers
- Drums
- Large debris such as steel and concrete beams and monoliths, pipes, and culverts
- Large concrete and building rubble
- Small concrete and building rubble
- Asbestos-containing material
- PCB-containing material
- Soft debris.

This procedure overview also deals with in-cell grouting operations as necessary,

3. REGULATORY REQUIREMENTS

- 40 CFR 264.309, "The owner or operator of a landfill must maintain the following items in the operating recorded required under 264.73
  - (a)"On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks" and (b)
- 40 CFR 264.310(a)(4), "...Accommodate settling and subsidence so that the cover's integrity is maintained"
- IDAPA 58.01.01.585 – Rules for Control of Air Pollution in Idaho
- IDAPA 58.01.01.586 – Rules for Control of Air Pollution In Idaho
- 40 CFR 61.92, "Emissions of radionuclides to the ambient air from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/year"
- 40 CFR 761.50(a)(5), PCB disposal requirements.

4. EQUIPMENT

- A bulldozer placed in the contaminated area will spread the soil and debris waste types to disposal locations.
- A portable crane, forklift, and/or loader will be used to off-load containers, barrels, beams, monoliths, and other waste forms received on flat bed trucks.
- Water at the dump peninsula will be used to control dust and facilitate compaction, as needed.
- Concrete pumping unit capable of placing grout over the waste form as clean area.
- Type II Portland cement.

5. IMPLEMENTATION

The majority of the waste shipments to be received at the ICDF Complex will be soils. However, a small percentage will be made up of the other waste types listed above. Some waste may need to be staged in the cell awaiting the proper placement criteria. If this occurs, waste may not reside in the cell without being placed for longer than 7 days. To accommodate these, arrangements will be made to have necessary equipment at the landfill when the shipments are ready for off-loading.

The scheduled shipments for the week will be reviewed in advance of the delivery date to identify unique equipment needs for the off-loading of specific waste shipments. The following requirements will be implemented to ensure proper waste positioning, as detailed in EDF-ER-286:

- Initial fill sequence:
  - First 2 ft of waste above the operational layer shall be only soil and have a maximum of 20% fines content (passing a **U.S.** No. 200 sieve), placed in 12-in. layers and compacted.
  - The next *3* ft of waste above the operational layer must be soil—no large metal, concrete, or other material that may damage liner, placed in 12-in. layers and compacted.
  - Remaining lifts can be of general waste (soil, concrete, containers, etc.)
- For bulk waste soil:
  - Packaging requirements for bulk waste soils require a covered container to facilitate a clean off-loading at the dump face by releasing the tarp, viewing the load with a mirror, opening the rear gate, raising the container slightly, rolling the container rearward over the edge and raising the container until the waste slides out.
  - The waste will be spread in 12-in. loose lifts no hrther than 100 ft from the dump face. The location will be noted on the On-Site Waste Tracking Form (OWTF) and entered in IWTS. To facilitate landfill operations, a compacted base of a given waste stream may be established at the dump face as described above. Once that base is established, future loads of the same waste stream may be dumped onto the compacted base (to facilitate ramp construction), moved over the compacted base to the desired placement location (possibly greater than 100 ft from the dump face), then spread in 12-in. loose lifts and compacted within the 4-grid limit.
  - Throughout the process, water will be applied as necessary to control dust and aid compaction.
- For containerized soil waste:
  - Containers such as wood or fibrous materials, boxes, crates, etc:
    - Containers will be off-loaded and placed either in the designated disposal location or in an interim area prior to being placed in the appropriate landfill grid. In the later case, final placement will be completed as soon as possible. Soil waste will be placed over the containers and compacted.
    - When placed, the containers will be located on waste at least 5 ft above the top of the original operations layer and spaced as specified in EDF-ER-286. Spacing will be determined by the need to compact.
    - The grid location of the container will be recorded on the OWTF and entered into IWTS.
    - The containers will be crushed by the bulldozer, spread into a lift, and covered with soil waste or clean soil prior to compaction.
    - Throughout the process, water will be applied as necessary to control dust and aid compaction.

Steel containers and drums:

- Steel containers and drums will be off-loaded in either the designated disposal location or in an interim area prior to being placed in the appropriate landfill grid.
- Steel containers or drums will be located on waste at least 5 ft above the original operations layer and spaced as specified in EDF-ER-286.
- The grid location of the containers will be recorded on the OWTF
- The steel containers and drums are required by the ICDF landfill WAC to be full and will be covered by waste soils and the soil compacted.
- Throughout the process, water will be applied as necessary, to control dust and aid compaction.

- Debris:
  - Large debris such as steel and concrete beams and monoliths, pipes, and culverts:
    - This debris will be off-loaded in the designated disposal location or in an interim area prior to being placed in the appropriate landfill grid.
    - Debris will be located on waste at least 5 ft above the original operations layer and spaced as specified in EDF-ER-286.
    - The grid location of the debris will be recorded on the OWTF, and entered into IWTS.
    - Debris will be covered by waste soils, and the soil will be compacted.
    - Throughout the process, water will be applied as necessary to control dust and aid compaction.
  - Large and small concrete and building rubble:
    - Large and small concrete and building rubble will be off-loaded using specific equipment. The concrete and building rubble will be off-loaded in the appropriate grid location or off-loaded to an interim area and then moved to the appropriate grid location.
    - Large rubble and concrete will be spaced to ensure that soil waste can be placed between the rubble pieces to ensure appropriate compaction. The rubble will be covered with soil waste and the soils compacted.
    - The grid location of the rubble will be recorded on the OWTF and entered into IWTS.
    - Throughout the process, water will be applied as necessary to control dust and aid compaction.
- Asbestos-containing waste:

- ACM will only be accepted for ICDF landfill disposal if the material is radiologically contaminated and/or contains hazardous waste constituents and is packaged according to the ICDF landfill WAC. Delivery to the ICDF will be pre-arranged in order to complete prompt delivery and disposal.

- Signage and barricades will identify the asbestos disposal area in the landfill. This area will consist of a 2-ft-deep trench formed between two berms. The forming of the trench will not disturb previously placed waste.

- The asbestos waste will be placed in the trench, covered with 6 in. of waste soil or a dust suppression agent, and compacted. This will be completed at the end of the operating day, or within a 24-hour period while the site is in continuous operation, as required by 40 CFR 61.150. Water will be added to control dust, aid compaction, and control the possibility of asbestos fibers becoming airborne, as necessary.

- The grid location of the ACM will be recorded on the OWTF and in IWTS.

- PCB-containing material

  - PCB ≥500 ppm not allowed in landfill

  - Liquid PCB must be solidified prior to disposal

  - Will be placed pursuant to waste type, e.g., debris, soil.

- Soft debris:

  - Soft debris consists of cardboard, wood, paper, and other biodegradable materials. These will be delivered to the ICDF landfill and disposed. The areas in which soft debris is placed in the landfill will be moved for each delivery to minimize subsidence potential. Soft debris will be staggered throughout the landfill, both horizontally and vertically to achieve compaction requirements.

  - The grid location of the soft debris will be recorded on the OWTF and in IWTS.

  - Soft debris will be distributed and 12-in. lifts of bulk soil waste will be placed over the soft debris and compacted. Water will be added as necessary to control dust and aid compaction.

- In Cell Grouting

  - Debris and other waste types that are expected to be difficult to meet the void space and compaction requirements or present a potential danger to the operator and/or equipment may be placed in the landfill and grouted in place to meet the compaction requirement.

    - Place the waste needing in-cell grouting into the desired landfill grid locations

    - Place and compact soil around the grouting area to form a trench/container berm or around the waste container

    - Pump grout into the in-cell grouting area and fill to the desired elevation. The grout shall consist of Class 20 normal-weight concrete with a minimum 28-day

comprehensives strength of 2,000 psi. The grout slump at the point of placement shall be between *3* and 6 in. The manufacture and delivery of all concrete grout shall conform to ASTM C94.

- Allow grout to cure to the required hardness (i.e., 50 psi) prior to placing additional waste over the grouted area.

6. REFERENCES AND INTERFACES

- EDF-ER-286, "Landfill Waste Placement Plan"
- ASTM C94/C94M-00e2, 2000, "Standard Specification for Ready-Mixed Concrete," American Society for Testing and Materials, 2000.

7. RECORDS

- OWTF for each of the waste shipments disposed at the ICDF landfill
- IWTS electronic records
- Map showing waste disposal location(s) and contents of each cell
- Operations Log Book entries.

Waste Compaction and Inspection

Prepared by	Tracking No.
R.G. Hanson	4.9.5.3
Date	Revision
November 1,2002	1

1. PURPOSE

The purpose of this procedure is to identify the requirements for waste compaction and inspection.

2. SCOPE AND APPLICABILITY

This procedure applies to the compaction of waste placed in the ICDF landfill. Compaction testing is a best management practice that minimizes the chance of subsidence of the closure cap.

3. REGULATORY REQUIREMENTS

- 40 CFR 264.309 (a), "…On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks"
- 40 CFR 264.309(b) "…The contents of each cell and the approximate location of each hazardous waste type within each cell"
- 40 CFR 264.310(a)(4): "Accommodate settling and subsidence so that the cover's integrity is maintained."

4. EQUIPMENT

- Dozer to spread waste across the disposal grid and compact
- Water availability at the waste dump face to control dust and provide moisture to aid compaction
- Compaction measuring instrument (e.g., nuclear density gauge, Humboldt GeoGauge).

5. IMPLEMENTATION

- Radiological debris and soil waste is off-loaded at the dump face. The dump face drop from the peninsula floor to the active waste floor is to be less than 6 ft.
- The waste will be spread in 12-in. loose lifts no hrther than 100 ft from the dump face. The location will be noted on the On-Site Waste Tracking Form (OWTF) and entered into IWTS. To facilitate landfill operations, a compacted base of a given waste stream may be established at the dump face as described above. Once that base is established, future loads of the same waste stream may be dumped onto the compacted base (to facilitate ramp construction), moved over the compacted base to the desired placement location (possibly greater than 100 ft from the dump face), then spread in 12-in. loose lifts and compacted within the 4-grid limit.

- Large debris will be placed consistent with EDF-ER-286. Soil will be placed over and around the debris to ensure voids are filled.

- The dozer operator will pass (a pass is over and back) over the waste repeatedly to provide compaction. Initially, the dozer will pass over the waste three times. If required, additional passes will be specified in order to achieve the desired compaction. The desired compaction is 90 to 95% relative compaction based on ASTM D698 Standard Test Method. Testing must be done in the upper 12 in. of the waste level.

- Containerized waste or monoliths will be placed and surrounded by soil waste and compacted by the same techniques.

- After 2,500 yd^3 of soil have been dumped, an in-place compaction test will be performed to determine if the compaction procedure is accomplishing the desired outcome. Based on these results, the number of passes can be modified to accomplish the desired compaction density. In-place testing will be performed using either a nuclear density gauge per ASTM D-2922, or a Humboldt GeoGauge per ASTM D-6758.

- The compaction test results will be entered into the operations log. If remedial action is required based on the test results, it will be implemented on the following operations shift.

- Visual inspections of the landfill will be performed to avoid the over-application of water for dust control or compaction (e.g., puddles or ponding).

6. REFERENCES AND INTERFACES

- EDF-ER-286, "Waste Placement Plan"

- Overview 4.9.5.1, "Landfill Waste Off-Loading/Placement Requirements"

- ASTM D698, "Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort"

- ASTM D2922, "Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods, Shallow Depth'

- ASTM D6758, "Standard Test Method for Measuring Stiffness and Apparent Modulus of Soil and Soil-Aggregate In-Place by an Electro-Mechanical Device."

7. RECORDS

- Daily operating log entries.

Performance of Landfill Compaction Equipment

Prepared by	Tracking No.
R.C. Shilkett	4.9.5.3a
Date	Revision
November 7,2002	0

1. PURPOSE

The ICDF will analyze the performance of the selected compaction equipment prior to beginning waste placement to develop method specification for the different types of bulk soil to be delivered to the landfill.

2. SCOPE AND APPLICABILITY

This method specification will apply to all soils placed in the landfill. Initially three types of soil will be evaluated:

- Sands and gravel (alluvium)
- Silt and sandy loam (top soil)
- Silt and clay material (old alluvium).

3. REGULATORY REQUIREMENTS

No ARARs identified

4. EQUIPMENT

- Caterpillar D9R bulldozer or similar equipment
- Compaction measuring instrument (e.g., nuclear density gauge, Humboldt GeoGauge).

5. IMPLEMENTATION

Testing will be performed in an area near the ICDF landfill permanent stockpile. Two of the three expected soil types are readily available from the stockpile. Material representative of a silt and clay mixture will have to be located. If no source is available, the first loads of that type of waste will be used to identify the number of passes for the compaction equipment and the test will be performed inside the landfill.

- The area used for the test will be approximately 25 x 25 ft to simulate a typical 20 yd^3 load of waste.
- Density readings will be taken of the area to confirm that the subgrade of the location is suitable for the tests. Any areas that do not meet the 90% minimum compaction will be compacted until the 90% minimum is obtained.

- A sample of each of the specific soil type will initially be tested for moisture-density relationship, gradation, and Atterberg limits prior to the test.

- The specific material to be tested will be spread in a uniform 12-in.-thick lift over the prepared 25- x 25-ft area.

  - The D9 dozer or other proposed compaction equipment will make one pass over the entire area and then in-place density, moisture, and soil stiffness per ASTM Standard D6758 testing will be performed at 5-10 locations for correlation between methods.

  - The dozer or compaction equipment will make repeated passes with the same testing to continue until the full range of compaction is achieved. The density and soil stiffness as hnction of passes can be compared and the number of passes at which 90% of ASTM Standard D698 was achieved then selected. The corresponding soil stiffness at this point can be obtained for in-place verification.

  - Following successhl correlation between in-place density and soil stiffness, the GeoGauge may be used with other compaction verification techniques (such as nuclear gauge density measurements) subject to Agency approval.

- For each soil type, a minimum number of passes for the dozer or other compaction equipment will be determined. This minimum will be used during waste placement operations to monitor adequate compaction.

6. REFERENCES AND INTERFACES

- ASTM D698, "Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort"

- ASTM D6758, "Standard Test Method for Measuring Stiffness and Apparent Modulus of Soil and Soil-Aggregate In-Place by an Electro-Mechanical Device"

- Overview 4.9.5.3, "Waste Compaction and Inspection."

7. RECORDS

- Test results report

- Operations log entries.

Radiological Survey Requirements

Prepared by	Tracking No.
R. G. Hanson	4.9.5.5
Date	Revision
06-06-02	0

1. PURPOSE

Trucks that enter the ICDF landfill with a waste shipment for disposal will be subjected to a radiological survey of the rear gate, tires, and rear area of the truck before being released to return to the queuing area to off-load the container. Other vehicles that enter the landfill will also undergo a similar radiological survey before leaving the landfill.

2. SCOPE AND APPLICABILITY

This procedure addresses the radiological survey of trucks that will be performed each time a truck brings a load into the landfill and off-loads at the dump-face.

3. REGULATORY REQUIREMENTS

No ARARs identified

4. EQUIPMENT

- Appropriate radiological survey equipment as determined by the RCT.

5. IMPLEMENTATION

Following the completion of the off-loading of waste from the dump truck/shuttle truck and container, the container will be lowered and the truck moved forward away from the dump face. The Radcon Technician will perform a radiological survey of the container gate area, the rear tires, and the surrounding area of the shuttle truck. If background is high, the truck will be moved to a lower background area where a radiological survey can be performed.

- If no contamination is detected, the truck will be released and allowed to return to the ICDF queuing area to off-load the empty container or exit the ICDF.
- If contamination is detected, the truck will be decontaminated in place, moved to a designated decon area in the landfill, or moved to the decon building. A more specific survey will be performed to identify the area of the contamination. Decon procedures will be implemented to remove the contamination. The results of the radiological survey and decon process shall be recorded.

6. REFERENCES AND INTERFACES

None.

7. RECORDS

- Record the results of failed surveys in the radiological survey log.

Leachate Pump Removal and Insertion

Prepared by	Tracking No.
R.C. Shilkett	4.10.2
Date	Revision
November 2,2002	1

1. PURPOSE

The purpose of this procedure is to describe how to safely remove or insert any leachate or leak detection sump pump at the landfill or evaporation crest pad building.

2. SCOPE AND APPLICABILITY

This procedure applies to the leachate collection recovery pumps in the landfill and leak detection chamber pumps in the landfill and evaporation pond cells.

3. REGULATORY REQUIREMENTS

None identified.

4. EQUIPMENT

- Wall-mounted winch
- Adjustable platform cart to receive the leachate pump from the riser
- Hand tools for plastic tie removal and hose reels for the power and transducer cables
- Terri-cloth wipes and a bag to collect used wipes and plastic ties.

5. IMPLEMENTATION

There are two sizes of leachate pump (–10- and 100-gpm) but the process for removal or insertion is similar. The number of flexible pipe lengths to be removed/inserted for different pumps may vary.

- Prerequisites
  - When warranted by operations or maintenance, place the pump removal/insertion activity for the specific pump on the plan-of-the-week and/or plan-of-the-day ICDF operating schedule.
  - Prepare a lock-outhag-out (LO/TO) for the isolation valve for the specific pump
  - This work will be performed under a RWP since the material removed from the pump riser may be contaminated.
  - Cover the floor of the crest pad building with plastic sheeting and blotter paper for contamination control.

- Set-up appropriate radiation control boundaries and a step-off pad area to control entrance into the work area.

- Observe the sump level indicator for the pump that is to be removed to verify that the pump does not need to be operated prior to removal. If the sump is over 50% of the "pump start" level, operate the pump in the "hand' mode until the sump level is down to the "pump shut-off' level for automatic mode.

- Consult with the ICDF facility engineer for specific guidance as needed.

- Performance

  Pump Removal:

  - Open the identified electrical disconnect for the pump to be removed. Unplug the power cord at the disconnect receptacle. LO/TO is not required since this is a "cord and plug" unit and the plug is in the control of the personnel performing the work.

  - Disconnect the pump transducer cable from the appropriate wall receptacle.

  - Sleeve the exposed portions of the power and transducer cables as instructed by the RCT.

  - Close the associated isolation valve and install the appropriate LO/TO on the valve.

  - Remove the flexible hose connection from the specific pump riser.

  - Remove the blind flange on the riser and position any required cable guides or pulleys to keep the cable from contacting the riser opening.

  - Connect the stainless steel pump cable through the guides and to the winch

  - Slowly pull the first section of flexible pipe out of the riser. Clip off the plastic cable ties that secure the power and transducer cables to the pipe.

  - If needed, dry the cables (pump, power, and transducer) and pipe section. Remove the pipe section and store in a convenient location in the room.

  - Pull the next pipe section and repeat the process. Start winding the power and transducer cables on their respective hose reels.

  - Repeat the process of pipe removal and winding the cables on the hose reels until the flexible pipe section is exposed. At this point, position the adjustable platform cart to receive the pump as it exits the riser.

  - Pull the pump onto the cart platform. Remove the last section of pipe. Detach the cable from the pump case and wind up the slack cable. Wipe down the surfaces of the pump.

  - The pump is ready for maintenance performance.

- Pump insertion:
  - Position the cart and pump at the riser opening. Attach the pump cable and first section of flexible pipe. Attach the electrical power and transducer to the pipe section.
  - Feed the pump into the riser.
  - Attach additional sections and lower the pump into the riser until all sections have been attached and inserted. Cable ties shall be installed to secure power cable, stainless steel cable, and transducer cable to the pipe. Cable ties shall be placed at spacing of one tie per pipe section.
  - Disconnect the stainless steel pump cable through the guides and to the winch.
  - Remove any cable guides or pulleys and install the riser flange
  - Install the flexible hose connection to the riser
  - Remove the sleeve from the power and transducer cables as instructed by the RCT.
  - Connect the power cord at the disconnect receptacle.
  - Connect the pump transducer cable to the appropriate wall receptacle.
  - Remove the LO/TO and open the appropriate isolation valve
  - Close the identified electrical disconnect for the pump.
  - Ensure that the pump control switch is in the "auto" position.
- Post-maintenance testing:
  - Recalibrate pump and/or transducer
  - Ensure pump/transducer working prior to leaving site.

6. REFERENCES AND INTERFACES

- Drawing IN-201, "Landfill P&ID"
- Drawing IN-202, "Evaporation Ponds P&ID."

7. RECORDS

- Work control system records.

Access and Perimeter Control

Prepared by	Tracking No.
P.J. Jessmore	4.11
Date	Revision
May 9, 2002	1

1. PURPOSE

The purpose of this procedure is to address ICDF Complex access/perimeter control and facility posting requirements to ensure access to the ICDF Complex is monitored and controlled and proper signage identifying controlled areas are posted.

2. SCOPE AND APPLICABILITY

This procedure addresses ICDF Complex access control for ICDF employees and visitors, escorting requirements, inspections, and prohibited items.

3. REGULATORY REQUIREMENTS

40 CFR 264.14(b), "Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (2) of this section, a facility must have: (1) a 24-hour surveillance system (e.g., a television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility: or (2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and (ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility)."

40 CFR 264.14(c), "Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (2) of this section, a sign with the legend, 'Danger-Unauthorized Personnel Keep Out,' must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility... And must be legible from a distance of at least 25 feet..."

4. EQUIPMENT

None identified.

5. IMPLEMENTATION

- The ICDF Complex is considered a property protection area. It is completely surrounded by a fence with gates and other entrances designed to control entry.
- Identification tags that list, at a minimum, the owner's name, work organization, and work phone number are required on all hand-carried articles brought into the ICDF Complex.

- Normal employee access to the ICDF Complex will be through the administration area and the north gate.
- ICDF Complex authorized employees have unrestricted access to enter and leave ICDF Complex areas.
- ICDF Complex access points will be open during business hours and closed at the end of the business day. The admin trailer, the entrance security gate, and other gates, as appropriate (e.g., evaporation pond gate), will be locked/secured at the close of normal working hours.
- ICDF Complex personnel are required to have a DOE-ID-issued INEEL badge and appropriate dosimetry, as required, for their particular work activities.
- Visitors will be checked for the appropriate training and dosimetry, as required, for the areas to be entered.
- Visitor access will be through the administration area.
- Visitors to the ICDF Complex are required to be on official business.
- Visitors are required to obtain dosimetry, as appropriate, and a DOE-ID-issued INEEL visitor's badge and sign the visitor log located at both the INTEC guardhouse and at the appropriate ICDF access control point(s).
- Visitors who have a badge but not the appropriate need to enter, proof of training and dosimetry will be allowed to enter the uncontrolled areas of the site (e.g., the administration area) but will not be allowed within the posted exclusion zones.
- Visitors who have the need to enter areas other than uncontrolled areas of the site require an escort.
- Badges and dosimetry, as required, are to be worn at all times in plain view, above the waist and below the neckline, unless health and safety considerations prohibit.
- Personnel who forget their badge must show a picture ID to security personnel to obtain a temporary badge denoting proper access authorization.
- If an employee does not have picture ID, the employees' manager or designee can be contacted for positive employee identification.
- ICDF Complex personnel are required to have current and appropriate training to maintain access to the ICDF Complex.
- Keys to individual trailers, gates, file cabinets, etc., will be issued to ICDF Complex personnel on an as-needed basis and controlled through an established key control program.
- Vehicular access (e.g., operations equipment) into the ICDF Complex is controlled by a gate that can be locked. Drivers must check in at the admin building prior to entry.

- Vehicular/personnel access into the ICDF evaporation pond is controlled by a gate that can be locked. Drivers must check in at the admin building prior to entry. See ICDF RD/CWP Drawing C-201).

Escorting Requirements

- All visitors who need to enter the CERCLA or hazardous operations areas require an escort.

- Escorts are required to complete the appropriate training prior to escorting visitors. Subcontractor personnel who have completed escort training and have special approval by INEEL Physical Security are allowed to escort other subcontractor personnel or visitors.

Personnel Inspections

- Periodic inspections will be performed on packages, boxes, briefcases, backpacks, and similar articles carried by or in the possession of employees and visitors when entering or exiting the ICDF Complex. Routine inspections are not planned as part of ICDF Complex operations.

- Failure to comply with a random inspection will result in denial of access and disciplinary action up to and including termination. INEEL Site Security will be contacted in these instances.

- Prohibited items (see below) identified during personnel inspections will be confiscated.

- Investigating and reporting of security incidents will be performed in accordance with INEEL Site procedures and guidelines.

Prohibited Items

- Prohibited items include but are not limited to firearms, ammunition, alcoholic beverages, illicit drugs, explosives, wiretapping or eavesdropping devices, or any dangerous or potentially dangerous instruments or materials likely to cause substantial injury to persons, property, or animals.

6. REFERENCES AND INTERFACES

- DOE/ID-10848, ICDF Remedial Design/Construction Work Plan

7. RECORDS

- Visitor traffic log.

Landfill Leachate Transfer to a Truck

Prepared by	Tracking No.
R.C. Shilkett	4.12.4
Date	Revision
November 1,2002	1

1. PURPOSE

This procedure would be used in an emergency situation if the evaporation pond cells were not available to accept liquids. Performance of this procedure would allow the ICDF to continue to meet regulatory requirements. Specifically, the following will be addressed:

- Prevent the hydraulic head over the primary liner of the landfill from exceeding 30 cm (1 ft) by automatically transferring the leachate to the evaporation pond.
- Transfer of landfill leachate to a tank via the truck loading/unloading facility. This activity would only be performed if both evaporation pond cells were approaching capacity or if circumstances precluded the transfer of liquid from one cell to the other.

2. SCOPE AND APPLICABILITY

This procedure applies to all four pumping systems in the landfill.

3. REGULATORY REQUIREMENTS

- 40 CFR 264.301(c)(2) "...ensure that the leachate depth over the (landfill) liner does not exceed 30 cm (one foot)."
- 40 CFR 264.221(c)(3) "An owner or operator (of a surface impoundment) shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner."
- 40 CFR 264.302(b) "To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under §264.303(c) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care…."

4. EQUIPMENT

This procedure addresses the use of the low-volume leachate pump. A similar approach would be used (with different valve alignments) to use the high-volume pump or either of the leak detection sump pumps.

- Landfill low-volume leachate collection recovery pump (10 gpm) in manual operation mode
- Portable tank(s) of known capacity

- Radios or other means of constant communication between the truck loading facility and landfill crest pad building.

- There is no level control instrumentation associated with this process. Total flow can be determined on FT 203-2 in the landfill crest pad building and on FT CD-211 in the evaporation pond crest pad building.

5. IMPLEMENTATION

- Install appropriate lock-out tag-out (LO/TO) on the landfill and the evaporation pond pumps to prevent any other liquid being automatically pumped to the portable tank.

- Connect the discharge line to the tank at the truck loading facility.

- Note the flow totalizer reading.

Note that the only overflow protection capacity is that of the combined sump. The discharge of that sump pump would only go back into the tank. Therefore, extreme care must be taken to avoid overfilling a tank.

- When the tank is at approximately 75% capacity, an operator must start to observe the level in the tank and relay the information to the operator at the landfill crest pad building pump controller.

- As the tank approaches capacity, stop the pump and close the valve. Record the total flow pumped to the tank.

- Disconnect the fill line from the tank. If loading another tank, establish the connection, open the valve, note the flow totalizer readings, then restart the pump.

- When transfers are complete, drain and rinse the hose into the truck unloading sump and package equipment per RCT direction.

- Record the volume of leachate transferred from the sump in the daily Operating Log.

- Record the transfer in the waste tracking system.

6. REFERENCES AND INTERFACES

- Drawings IN-201, "Landfill P&ID" and IN-202, "Evaporation Pond(s) P&ID"

- Overview 4.12.6, "Landfill Action Leakage Rate Response Plan."

7. RECORDS

- Record in the Operating Log the volume of liquid transferred from the sump to each tank. Also: record the shipping documentation number(s) and destination of each load.

Landfill Surface Storm Water Sump Pumping

Prepared by	Tracking No.
R.C. Shilkett	4.12.5
Date	Revision
November 2,2002	1

1. PURPOSE

The purpose of this procedure is to address removal of accumulated storm water from the unlined surface sump in the southwest corner of the landfill.

2. SCOPE AND APPLICABILITY

This procedure applies to the unlined sump in the southwest corner of the landfill.

3. REGULATORY REQUIREMENTS

40 CFR 264.301(i) "Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system."

4. EQUIPMENT

- Temporary piping from the sump to a storm water runoff ditch outside of the landfill
- Portable sump pump of sufficient volume and head capacity to lift water over the landfill berm and a portable generator to power the sump pump, if needed.

5. IMPLEMENTATION

- Perform a radiological sampling and analysis of the sump contents to confirm that the water is nonradioactive. Perform a hazardous waste determination before the water is discharged to the storm water runoff system.
- If the sampling shows the contents to be contaminated, transfer to the evaporation pond via tanks.
- Lay temporary piping on the surface of the operations layer from the sump location to a storm water runoff ditch outside of the landfill berm. Provide erosion protection at the end of the discharge pipe in the storm water runoff ditch. Install the sump pump and generator, if needed.
- Start the pump and note the time that the pump was started. Observe the storm water runoff ditch to verify that the water is flowing as intended.
- Stop the pump when as much water as practical has been removed. Note the time the pump was stopped. Break the connection from the pump to the temporary piping and allow the water to drain back into the sump.

- Multiply the time in minutes by the pump capacity in gpm to obtain an estimate of the volume pumped. Record in the Operating Log the volume of water transferred from the sump to the storm water runoff system.

- If contaminated water was removed, evaluate the situation and remove the contaminated sediments as directed by ICDF management and appropriate personnel. Perform radiological surveys as the work progresses. Contaminated sediment will be disposed in the ICDF landfill.

- Contaminated equipment will be packaged per RCT direction and stored in a radioactive materials storage area in the decon building.

6. REFERENCES AND INTERFACES

- Overview 4.8.1, "ICDF Landfill Leachate Monitoring and Transfer to the ICDF Evaporation Pond'

- DOE/ID-10886, *ICDF Operations WusteMunugement Plan*.

7. RECORDS

- Completed weekly inspection reports

- Maintenance or response action documentation

- IWTS records for waste management.

Landfill Action Leakage Rate Response Plan

Prepared by	Tracking No.
R.C. Shilkett	4.12.6
Date	Revision
November 2,2002	1

1. PURPOSE

The purpose of this procedure is to present a systematic approach to address the occurrence of a leakage rate in excess of action level.

2. SCOPE AND APPLICABILITY

This procedure applies to any situation that the landfill liner leakage rate exceeds the action level. The ALR for the landfill is calculated to be 1,380 gal/day (EDF-ER-269, "Leachate Generation Study").

3. REGULATORY REQUIREMENTS

No ARARs identified

4. EQUIPMENT

- The ICDF Complex instrumentation and control system for flow rate data
- Excavation equipment and materials as needed should waste removal and/or liner repair be required.

5. IMPLEMENTATION

- Schedule of Agency notifications (see Section 9 of this document regarding more information on notifications):
  - ICDF Complex management will notify DOE-ID at the time that the flow exceedence of the ALR is identified.
  - DOE-ID will provide written notification (e.g., email, fax) to the IDEQ and EPA that the flow is determined to have exceeded the ALR as soon as is practical (not to exceed 7 days) after making the determination.
  - DOE-ID will provide written information of the incident to the IDEQ and EPA, regarding the amount of liquids; possible location, size, and cause of any leaks; and short-term actions taken and planned. The information will be provided within 14 days of the determination.
  - DOE-ID, in consultation with the IDEQ and EPA, will prepare a corrective action plan detailing the results of analyses, actions taken, and actions planned.

- As long as the flow exceeds the ALR, DOE-ID will prepare and submit monthly written notice to the IDEQ and EPA detailing additional actions taken and actions planned.

- Assessments for size, location, and cause of the leak:
  - Review precipitation data from the INTEC Grid *3* tower and CFA.
  - Compare the LCRS flow rates and weekly LDRS flow totals.
  - Review trends in operational use of water for compaction and dust control. Visual inspection of the landfill will be performed to avoid the over-application of water for dust control or compaction (e.g., puddles or ponds).
  - Examine the exposed side slopes and floor of the landfill for signs of erosion or damp areas.
- Assessments for the impact of the leak:
  - Determine if the LDRS flow rate is approaching or exceeding the LDRS pump capacity. The capacity of the LDRS pump is 15,840 gal/day.
  - Compare chemical and radiological analyses of the leachate with the profile information of disposed wastes and disposal locations.
  - Check the Secondary Leak Detection and Recovery System for evidence of a breach.
  - Perform limited waste retrieval to confirm the location of a leak.
- Short-term response actions:
  - Stop placement of waste until the source of the leak is located and repairs are completed.
  - Repair any observed damage using procedures, methods, and materials equivalent to the original ICDF landfill design and construction quality assurance requirements.
  - Continue to pump the LCRS to remove leachate as it is available.
- Develop appropriate long-term response actions.

6. REFERENCES AND INTERFACES

- EDF-ER-269, "Leachate Generation Study."

7. RECORDS

- Documentation of all actions and results.

Evaporation Pond Action Leakage Rate Response Plan

Prepared by	Tracking No.
R.C. Shilkett	4.12.7
Date	Revision
November 2.2002	1

1. PURPOSE

The purpose of this procedure is to present a systematic approach to address the occurrence of a leakage rate in excess of action level.

2. SCOPE AND APPLICABILITY

This procedure applies to any situation that the evaporation pond cell leakage rate exceeds the action level. The action leakage rate (ALR) for an evaporation pond is calculated to be 1,590 gal/day (EDF-ER-280, "Landfill Leachate Collection System Design Analysis").

3. REGULATORY REQUIREMENTS

No ARARs identified

4. EQUIPMENT

- The ICDF Complex instrumentation and control system for flow rate data
- Liner material and repair equipment as needed.

5. IMPLEMENTATION

- Schedule of Agency notifications (see Section 9 of this document regarding information on notifications):
  - ICDF Complex management will notify DOE-ID at the time that the flow exceedence of the ALR is identified.
  - DOE-ID will provide written notification (e.g., email, fax) to the IDEQ and EPA that the flow is determined to have exceeded the ALR as soon as is practical (not to exceed 7 days) after making the determination.
  - DOE-ID will provide written information of the incident to the IDEQ and EPA, regarding the amount of liquids; possible location, size, and cause of any leaks; and short-term actions taken and planned. The information will be provided within 14 days of the determination.
  - DOE-ID, in consultation with the IDEQ and EPA, will prepare a corrective action plan detailing the results of analyses, actions taken, and actions planned.

- As long as the flow exceeds the ALR, DOE-ID will prepare and submit monthly written notice to the IDEQ and EPA detailing additional actions taken and actions planned.

- Calculate the daily leakage rate for the evaporation pond leak detection system:
  - Calculate the daily leakage rate in gallons/acre/day based on the weekly ICDF evaporation pond instrumentation and control system flow totalizer readings.
- Assessments for size, location, and cause of the leak:
  - Review precipitation data from the INTEC Grid *3* tower and CFA
  - Review the LDRS flow rates and weekly totals
- Assessments for the impact of the leak:
  - Determine if the LDRS flow rate is approaching or exceeding the LDRS pump capacity. The capacity of the LDRS pump is 17,280 gal/day. The ALR for one evaporation pond is 1,590 gal/day.
- Short-term response actions:
  - Stop waste additions to the leaking pond
  - Transfer a portion of the contents of the leaking pond to the non-leaking pond. Evaluate any change in leakage rate relative to pond level.
  - Repair any observed damage using procedures, methods, and materials equivalent to the original ICDF evaporation pond design and construction quality assurance requirements,
- Develop appropriate long-term response actions.

6. REFERENCES AND INTERFACES

- EDF-ER-280, "Landfill Leachate Collection System Design Analysis."

7. RECORDS

- Documentation of all actions and results.

Liquid Transfers from an Evaporation Pond to a Tank

Prepared by	Tracking No.
R.C. Shilkett	4.12.8
Date	Revision
March 11, 2002	0

1. PURPOSE

The purpose of this procedure is to address transfer of liquids from one evaporation pond cell to a tank via the truck loading/unloading facility.

2. SCOPE AND APPLICABILITY

This activity would only be performed if both evaporation pond cells were approaching capacity or if circumstances precluded the transfer of liquid from one cell to the other.

3. REGULATORY REQUIREMENT

No ARARs identified.

4. EQUIPMENT

- High-volume leachate pump (~100 gpm).
- Apparatus for placing the leachate transfer pump in the cell to be pumped. This may require the use of a truck-mounted crane.
- Tank(s).
- Radios or visual communication between the truck loading facility and high-volume pump control location.
- There is no flow or level control instrumentation associated with this process.
- Automatic leachate transfer processes from the landfill and combined sump (SU-CD-107) pump must be put in the "off" position while tank loading is being performed.

5. IMPLEMENTATION

- Approved shipping documentation for all loads to be transferred.
- Install the leachate transfer pump, power cable, and discharge hose.
- Position the transfer pump such that sediments are not sucked into pump.
- Ensure that the valve (SWV-CD-34 or ~38) to the cell that is not being pumped is open and the valve to the cell that will be pumped is closed.
- Verify that the landfill sumps and combined sump levels are such that the sump pumps will not be required to start automatically.

- If a sump appears to be near the level requiring pumping, then refer to the abnormal operating procedure for pumping from the landfill sumps to a tank.

- If sump levels indicate that pumping is not required, install an appropriate lock-outhag-out (LO/TO) on landfill leachate recovery pumps (CD-203-1 and CD-203-2), leak detection pumps (CD-204 and CD-208), landfill crest pad building sump pump (CD-205), and the combined sump pump (CD-207). The SSSTF decon building pump station will also need a Level I LO/TO.

- Valve alignments (for pumping from the east evaporation pond) prior to starting the high-volume pump are Valves SWV-CD-28, -32, -34, -43, and -45 open; Valves SWV-CD-21, -27, -29, -31, -38, -40, and -42 closed. To pump from the west pond, Valve SWV-CD-38 would be open and SWV-CD-34 closed.

- Connect the discharge line to the tank at the truck loading facility

- Start the pump and note the time that the pump was started. The high-volume pump is rated at 100 gpm. Estimate the number of minutes it will take to fill the truck to 75% of its capacity.

Note that the only overflow protection capacity is that of the combined sump. The discharge of that sump pump would only go back into the tank. Therefore, extreme care must be taken to avoid overfilling a tank.

- When the tank is at approximately 75% capacity, an operator must start to observe the level in the tanker and relay the information to the operator at the pump controller.

- As the tank approaches capacity, stop the high-volume pump and close Valve SWV-CD-32. Note the time the pump was stopped.

- Disconnect the discharge line from the tank. If loading another tank, establish the connection, open Valve SWV-CD-32, and restart the pump.

- When transfers are complete, return the system to normal automatic operating mode with the following valve alignments (east evaporation pond example): Valves SWV-CD-29, -31, -32, -38, -42, and -43 closed; Valves SWV-CD-21, -27, -28, and -41 open. Remove and clear LO/TO on all pumps.

- Determine the approximate amount of liquid transferred to each tank by multiplying the number of minutes the pump operated by 100 gpm.

- Record in the Operating Log the approximate volume of liquid transferred from a cell to the tank(s). Also, note the shipping documentation number(s) and destination of each load and record information in IWTS.

6. REFERENCES AND INTERFACES

- Drawing IN-202, "Evaporation Ponds P&ID."

7. RECORDS

- Record the volume transferred from each cell to a tank.

ICDF Staging Pile Management

Prepared by	Tracking No.
R.C. Shilkett	5.1
Date	Revision
November 6,2002	1

1. PURPOSE

The purpose of this procedure is to provide guidance for the management of wastes staged at the bulk soil stockpile at the ICDF.

2. SCOPE AND APPLICABILITY

This procedure applies to the design and preparation; stockpiling, covering, and removal of waste; and preparation for stockpiling of other wastes at the bulk soil stockpile located west of the contaminated equipment pad.

3. REGULATORY REQUIREMENTS

- 40 CFR 264.554, "Staging Piles."

4. EQUIPMENT

- **A** loader or similar equipment for stockpiling, contouring, and transfer of soil waste materials
- Equipment for controlling fugitive dust emissions
- Liner materials for protection of the compacted base of the area
- Signage and physical barrier materials
- Cover materials and necessary items to prevent covers from being lifted by wind action.

5. IMPLEMENTATION

This section lists a variety of materials and some "concept" options for management of a staging pile. Final selections of materials and methods will be guided by the waste stream characteristics, volumes, and evaluations of the effectiveness of various proposed methods

- Design
  - The two bulk soil stockpile staging areas (see Figure 5-1, Site plan and storage/staging area designation, ICDF Complex Operation and Maintenance Plan, DOE/ID-11000) are a maximum of 150 x 270 ft. One will be located west of the contaminated equipment pad and the other at the **SSA** at an elevation above the 100-year flood plain.

- Figure 1 shows a concept having the capability of constructing up to six "staging cells" to minimize the area that will be contaminated by soil staging..

- Materials of construction

  - Subbase will be compacted gravel.

  - The liner system could be a geosynthetic, asphalt, or concrete slab (minimum 4-in. thick). Geosynthetics could be *30-*, 60-, or 100-mil thick HDPE with or without a geosynthetic cushion. Compatibility between the liner material and expected wastes will be a criterion in liner selection. An EDF that discusses the alternatives for protection of staging area liner systems will be given to the Agencies for review prior to the construction of the cells.

  - Compatibility between the cover material and expected wastes will be a criterion in cover selection. Another criterion will be the ability to withstand sustained winds of *35-50* mph with appropriate anchorage.

- Construction, installation, and testing

  - Liner materials will be installed and seams inspected/tested per manufacturer's specifications.

  - Cover materials are expected to contain only factory seams. If field seaming is necessary, seaming and inspection/testing will be per manufacturer's specifications.

  - Soils in the waste staging piles are to be managed in a manner to eliminate any potential run-on/run-off from entering the staging pile, or run-off from contacting the soils, thus eliminating the need to contain run-off. The staging piles will be designed (See Figure 1) as follows:

  - The soils pile shall be placed on an impervious liner. There will be at least a 2% slope away from the soil waste pile to insure proper drainage.

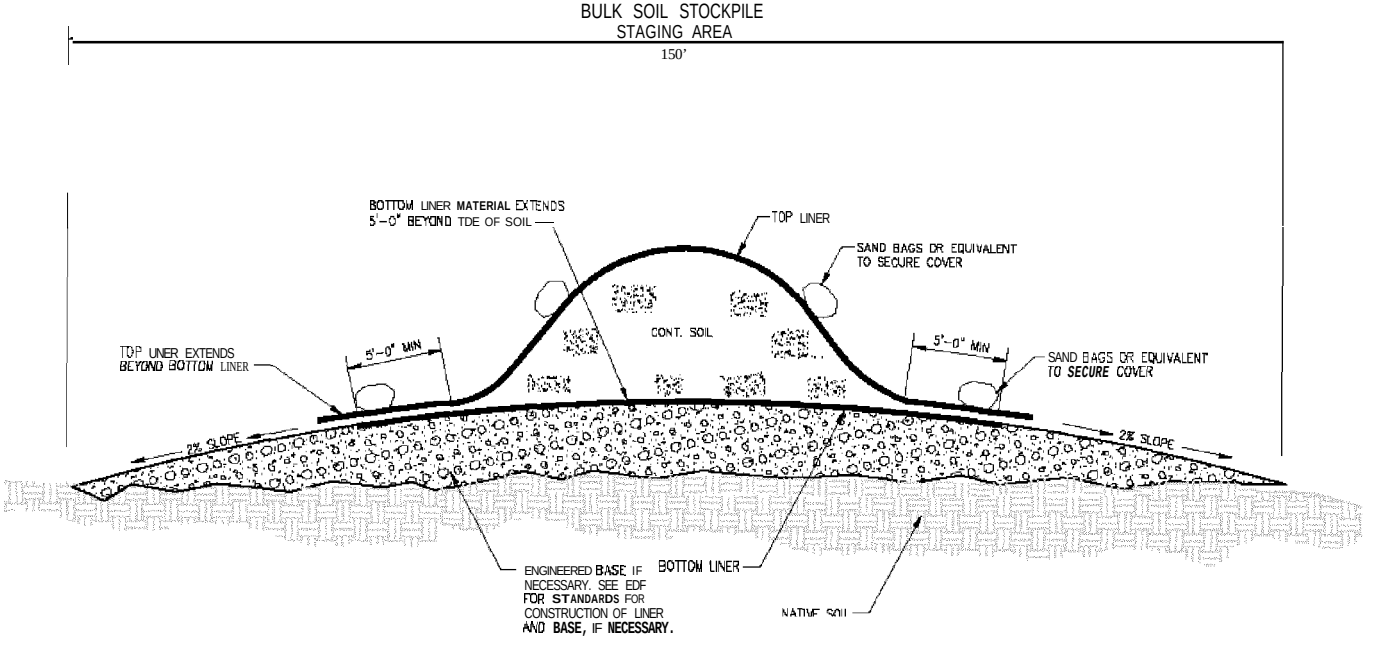
  - The bottom liner material for the soil shall be of sufficient strength/design to withstand the planned staging and subsequent removal of soils. The technical specifications will be established in an EDF that discusses alternatives for protection of staging area liner systems that will include requirements for base material and equipment restrictions if necessary.

  - The bottom liner will extend at least *5* ft beyond every edge of the waste soil pile

  - An impervious man-made material (cover) shall be used to cover the soils piles at all times that the soil is not being actively managed (placing, sampling, or removing waste). The cover must extend beyond the bottom liner and be secured to ensure that the staging pile soils are not exposed to the wind, precipitation, or elements.

  - The cover shall be an impervious material sufficient to withstand site conditions, (e.g., sun, wind, cold, heat, and movement to expose/cover the working face).

- Stockpiling of bulk soil in a staging cell



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- Waste management in staging piles - The wastes will not be added or removed during inclement weather (e.g., periods of precipitation, high winds). The working face and liner with waste soils will be covered at the end of each work day.

  - An OWTF will be collected for each load and show the staging cell as the ICDF location for the waste.

  - The soil should not present a fugitive dust issue in that it was just excavated. An impermeable cover will be placed over the staging piles. The cover will remain in place except during times of waste removal. If waste is being removed during a precipitation event, then the cover must be replaced between loading periods.

  - Appropriate signage and physical barriers will be placed as directed by the RCT and Environmental Affairs.

- Cover installation, maintenance, and run-odrun-off control

  - A cover will be placed over the waste and secured with wind anchorage (e.g., sand bags) to prevent wind lift and will direct rain and snow outside of the cell berm.

  - The cover may be put in place following the last load for stockpiling each day. It will be folded back and stored (dirty side to dirty side or clean side to clean side) just prior to resuming stockpiling activities. The cover will be replaced at the end of each shift or during precipitation events as required.

  - The staging cell(s) will be inspected weekly and after storms (see Overview 8.4) to ensure the effectiveness of the cover and run-on/runoff control. Needed repairs (patching of cover material) will be performed as soon as weather conditions permit.

- Soil removal and filling of containers for treatment - Soil will be removed, primarily during the winter months, and treated in the decon building. Removal from the staging cell will be done on a "campaign" basis of ten to twenty containers. The objective will be to provide enough material to operate the stabilization unit for approximately 1 week each time soil is removed from the staging cell. The boxes to be used must be of a size to fit the tipper unit of the treatment unit.

- Prior to filling operations, empty waste boxes will be placed near the staging cell. The staging pile cover will be folded back to expose enough of the waste pile for removal operations.

- An empty container will be placed on clear liner material and loaded using appropriate equipment.

- The container lid will be secured and an RCT will take a massilin swipe of the box surface to verify that waste is not being tracked out.

- An IWTS barcode will be affixed to either the box or placed in the OWTF pocket on the box.

- The forklift will take the box to the decon building via the truck scale to obtain a weight for entry into IWTS. The weighed box will be placed in the decon bay to warm to above freezing over the next few days.

- When all containers for a day or campaign have been filled, the loading unit will be wiped down and removed from the staging cell. The Site-wide survey criteria to release a piece of equipment will be utilized. The waste generated will be contained and entered into IWTS for disposition.

- The loader will be returned to the appropriate location.

- The staging cell cover and ballast tubes will be placed back over the pile.

- Staging cell closure and preparation for another waste stream

  - The staging piles will be closed after removal of the waste, at a minimum of every 2 years. Documentation of removal of the waste and elimination of the threat of release to the environment will be required.

  - After a staging cell has been emptied, it will be cleaned to an extent necessary to facilitate closure. This may be as simple as sweeping the liner surface or involve washing down the liner and collecting the contaminated water for disposal. This activity will ensure that no incompatible waste streams are staged in the cells.

  - A review of the hazardous constituents contained in any waste previously placed in the cell will be made against constituents in a new waste stream to prevent the introduction of incompatible wastes.

Meet closure requirements outlined in Section 9 of the ICDF RAWP (DOE/ID-10984) meeting the requirements of 40 CFR 264.554 (k).

6. REFERENCES AND INTERFACES

- PLN-914, "ICDF Complex Waste Tracking System Plan"
- DOE/ID-11005, *ICDF Complex Operational and Monitoring Sampling and Analysis Plan*
- DOE/ID-10886, *ICDF Complex Operations Waste Management Plan*
- DOE/ID-10984, *ICDF Complex Remedial Action Work Plan*
- DOE/ID-11000, *ICDF Complex Operation and Maintenance Plan*
- Overview 8.4, "Inspection of ICDF Storage Areas and Staging Piles."

7. RECORDS

- Inspection records
- IWTS tracking information.
- Operations Logbook entries
- RCT survey logs.

ICDF Complex Inspection

Prepared by	Tracking No.
R.C. Shilkett	8.1
Date	Revision
October 30. 2002	1

1. PURPOSE

The purpose of this procedure is to perform inspections to identify problems with operating the ICDF perimeter fences, access roads, and storm water controls on a weekly basis; after storms and after other events that may impact safe operation inspections will occur by close of the next business day.

Specifically, these activities include:

- Ensure the integrity of the identified components through a regular inspection process
- Identify necessary repairs or response actions
- Maintain documentation to verify that all inspection requirements and identified actions have been completed.

2. SCOPE AND APPLICABILITY

The inspection is applicable to the ICDF perimeter fence, storm water runoff control ditches, haul and access roads, and internal area fences and gates. Refer to Drawing C-201, "General Site and Stockpile Plan," for general location information.

3. REGULATORY REQUIREMENTS

No ARARs identified.

4. EQUIPMENT

None identified.

5. IMPLEMENTATION

Inspections will be made weekly or following a significant rain, snow, windstorm event or other event that may impact the safe operation of the landfill or evaporation ponds.

Prior to the inspection tour, the inspector will review the previous inspection report to note any deficiencies. The operating log for the time period since the previous inspection will be reviewed for any equipment status changes.

A checklist format will be developed that will address, but not be limited to, the following items:

- Perimeter and inside fences:
  - Are all fences in good condition? Are there any holes, buildup of debris (paper, tumble weeds), or any other damage?
  - Are gates hnctional, kept closed, and capable of being locked when an area is not in use?

- Are perimeter warning signs properly placed and in good condition and readable from 25 ft?

- Access and haul roads:
  - Are roads in good condition to allow safe operation?
  - Is there any severe erosion to roads or embankments?
  - Is there any evidence of fuel or other material/waste spills on the roads?
  - Is there adequate drainage? (Small puddles are acceptable, large ponds that will drench the undercarriage of a truck are not acceptable.)
  - Are there sufficient signs to direct truck traffic? Are the signs in good condition and correctly placed?
  - Is there evidence of spills of solid materials?

- Storm water runoff control ditches:
  - Are ditches clean and free of silt bars and large debris?
  - Are culverts open and free of large debris?
  - Are there any ice dams or accumulations of snow that might impede drainage?
  - Is runoff being directed to the intended areas? Is there any evidence of overflow from the ditches?

Any deficiencies/problems will be noted on the checklist. Actions taken to correct those problems will also be recorded on the checklist or accompanying documentation.

The inspection document will be signed and dated by the individual performing the inspection

Appropriate response actions must be taken for any noted inspection deficiency. Response actions shall be implemented by notifying the ICDF Complex operations manager at the end of the inspection. The operations manager shall be responsible for implementing response actions upon notification.

The inspection report will be reviewed and approved by the facility manager or his designee.

The individual responsible for submitting work requests resulting from the inspection will be determined by the facility manager or the designee.

The distribution of the inspection report will be determined by the facility manager or the designee.

6. REFERENCES AND INTERFACES

- Drawing C-201, “General Site and Stockpile Plan.”

7. RECORDS

- Completed inspection reports
- Maintenance or response action documentation.

Inspection of the Landfill and Evaporation Pond

Prepared by	Tracking No.
R.C. Shilkett	8.2 & 8.3
Date	Revision
October 30, 2002	1

1. PURPOSE

The purpose of this procedure would be to perform inspections to identify problems with operating the ICDF landfill and evaporation ponds on a weekly basis; after storms and after other events that may impact safe operation inspection will occur by close of the next business day.

Specifically, these activities include:

- Ensure the integrity of the facility systems, structures, and components through a regular inspection process
- Identify necessary repairs or response actions
- Maintain documentation to verify that all inspection requirements and identified actions have been completed.

2. SCOPE AND APPLICABILITY

The inspection is applicable to the ICDF landfill cell, landfill crest pad building, evaporation ponds, evaporation ponds crest pad building, truck loading/unloading station, and dust control/suppression equipment. Refer to Drawing C-201, "General Site and Stockpile Plan," for general location information.

3. REGULATORY REQUIREMENTS

- 40 CFR 264.15(a) "The owner or operator must inspect his facility for malhnctions and deterioration, operator errors, and discharges which may be causing–or may lead to–(1) release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems before they harm human health or the environment."
- 40 CFR 264.15(c) "The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately."

4. EQUIPMENT

None identified.

5. IMPLEMENTATION

Inspections will be made weekly or following a significant rain, snow, windstorm event or other event that may impact the safe operation of the landfill or evaporation ponds the next business day.

Prior to the inspection tour, the inspector will review the previous inspection report to note the volumes of the evaporation ponds, leachate generation amounts, and deficiencies. The operating log for the time period since the previous inspection will be reviewed for any equipment status changes.

A checklist format will be developed that will address, but not be limited to, the following items:

- Landfill cell:
  - Is there evidence of erosion to the embankments?
  - Is there any evidence of fuel or other material/waste spills in the truck unloading areas?
  - Is there evidence of settling of, or cracks (>1/8-in. in width) in, the anchor trenches?
  - Is there any evidence of rodent burrowing or wildlife intrusion (tracks)?
  - Is there evidence of excessive pools of water (from storms, dust control, or compaction) on the operations layer?
  - Is the operations layer free from debris (tumbleweeds)?
  - Is the dust fixative application equipment hnctional?
  - Is there any indication of fixative not being applied to disturbed areas on a daily basis? Is the fixative providing adequate dust suppression on the disturbed areas of the landfill?
  - Do temporary water lines to the operating areas have leak-tight connections?
  - Are radiation zone ribbons and signs properly positioned?
- Landfill crest pad building:
  - Is the building exterior (roof, walls, door) in good condition?
  - Are floors clean and dry?
  - Is there any evidence of pipe, fitting, or valve leaks?
  - Does the building temperature indicate that the heating/air conditioning is hnctional?
  - Are the leachate pumps installed in their respective sumps?
  - Does instrumentation indicate that all equipment is hnctional?
  - Record, from the instrumentation, the amount of leachate in each sump

- Compare water levels with action leakage rate. If level exceeds the action leakage rate, immediately notify the ICDF Complex operations manager and appropriate personnel.
- Is there any evidence of rodent or bird activity in or around the building?
- Record the amount of leachate removed from recovery sump since the previous week's inspection.
- Is there any liquid in the crest pad building sump?
- Is any calibrated instrumentation within 60 days of calibration expiration?
- Are interior and exterior lighting fixtures hnctional?
- Are radiation zone ribbons and signs properly positioned?

- Evaporation ponds:
  - Record the water level of both ponds.
  - Compare water levels with action leakage rate. If level exceeds the action leakage rate, immediately notify the ICDF Complex operations manager and Environmental Affairs.
  - Is there evidence of erosion to the embankments?
  - Is there evidence of settling of, or cracks (>1/8-in. in width) in, the anchor trenches?
  - Are there any signs of liner damage or degradation?
  - Is there any evidence of "overtopping" (wind-driven waves washing out of the pond and onto the berm?
  - Is the minimum of 2 ft of freeboard appearing to be maintained?
  - Is there evidence of an oil sheen on the pond?
  - Are ballast tube systems intact?
  - Is there any evidence of liner wind lift in empty areas?
  - Is there any evidence of sediments not being washed into the flooded regions of the ponds?
  - Is there any evidence of rodent burrowing or wildlife intrusion (tracks)?
  - Are the ponds free from tumbleweeds (wind-blown articles)?
  - Are there any foreign objects or animals observed in the pond?
  - Do temporary water lines for liner wash down have leak-tight connections?
  - Are radiation zone ribbons and signs properly positioned?
  - Is designated life safety equipment available and in good condition?

- Evaporation ponds crest pad building:
  - Is the building exterior (roof, walls, doors) in good condition?
  - Record the flow totalizer readings for each flow meter.
  - Record, from the instrumentation, the current liquid level in all sumps.
  - Are floors clean and dry?
  - Is there any evidence of pipe, fitting, or valve leaks?
  - Does the building temperature indicate that the heating/air conditioning is hnctional?
  - Does instrumentation indicate that all equipment is hnctional?
  - Is there any evidence of rodent or bird activity in or around the building?
  - Is there any liquid in the building sump?
  - Is any calibrated instrumentation within 60 days of calibration expiration?
  - Are interior and exterior lighting fixtures hnctional?
  - Are radiation zone ribbons and signs properly positioned?
  - Are spill kits complete and available?
- Evaporation ponds truck loading/unloading station:
  - Are concrete surfaces clean and free of cracks (>1/8-in. in width) and debris?
  - Are radiation zone ribbons and signs properly positioned?

Any deficiencies/problems will be noted on the checklist. Actions taken to correct those problems will also be recorded on the checklist or accompanying documentation.

The inspection document will be signed and dated by the individual performing the inspection.

Appropriate response actions must be taken for any noted inspection deficiency. Response actions shall be implemented by notifying the ICDF Complex operations manager at the end of the inspection. The operations manager shall be responsible for implementing response actions upon notification.

The inspection report will be reviewed and approved by the facility manager or his designee.

The responsible individual for submitting work requests resulting from the inspection will be determined by the facility manager or his designee.

The distribution of the inspection report will be determined by the ICDF facility manager or his designee.

6. REFERENCES AND INTERFACES

- Drawing C-201, “General Site and Stockpile Plan.”

7. RECORDS

- Completed weekly inspection reports
- Maintenance or response action documentation.

Inspection of ICDF Storage Areas and Staging Piles

Prepared by	Tracking No.
R. C. Shilkett	8.4
Date	Revision
November 4,2002	1

1. PURPOSE

The purpose of this procedure is perform inspections to identify problems the ICDF Storage Areas and Staging Piles with operating on a weekly basis; after storms and after other events that may affect safe operation inspections will occur by close of the next business day.

2. SCOPE AND APPLICABILITY

This procedure is applicable to the Staging and Storage Annex, full container staging area, tank and container storage area, and the bulk soil stockpile staging area.

3. REGULATORY REQUIREMENTS

- 40 CFR 262.34, "Accumulation Time"
- 40 CFR 264.554, "Staging Piles."

4. EQUIPMENT

None identified.

5. IMPLEMENTATION

Weekly inspections will be performed on all waste container storage areas.

Inspections will be made following a significant weather event (rain, snow, wind) on the next business day. Determination of an additional inspection will be made at the discretion of the ICDF facility manager or designee.

Inspections will include all storage areas and staging pile locations at the ICDF

Prior to the inspection, the inspector will review the previous inspection report to note any deficiencies for the purpose of observing the status of response actions.

A separate checklist will be used for each storage area and staging pile location. A format will be developed that will address, but not be limited to, the following items:

- Is there any waste at this location? If "no" the inspection is complete.
- Is there an up-to-date copy of the registration form posted at the area?

- Are "NO SMOKING" signs posted in the area if storing RCRA-defined ignitable or reactive waste?
- Are all waste containers labeled with the words "CERCLA WASTE"?
- Are all container labels and marks visible to the inspector?
- Are all non-waste items stored in the area appropriately marked or labeled for identification?
- Is the housekeeping in the area adequate?
- Ensure that waste containers are properly closed.
- Ensure that waste containers are handled and stored in a manner that prevents leakage
- Is there adequate aisle space for personnel and equipment to respond to emergencies and/or conduct inspections? Where containers have been placed in a "dense pack" configuration for radiation dose reduction purposes, an exception is made for no aisle spacing.
- Are all waste containers closed except when adding or removing waste?
- Are tarps on roll-odroll-off containers free from holes or other damage and secured to the container?
- Are tailgate latches on roll-odroll-off containers secure and appear to be in good working condition?
- Is there evidence of free liquids leaking from a container?
- If a container is found to be leaking, the inspector will contact the INTEC shift supervisor who will initiate a coordinated response to the situation.
- Are all wastes segregated within the area to maintain requirements for compatibility?
- Do quantities/containers recorded in the log book equal quantities/containers stored in the area?
- Are there, or have there been, any releases or spills in the area since the last inspection?
- If the spill or release has been remediated, was the remediation documented on this checklist?
- Do containers storing liquids have secondary containment, or are they otherwise prevented from discharging through dikes or berms?
- Verify that dikes or berms, if present, restrict run-on precipitation from entering storage areas.
- For containers storing liquids, verify that the containment has capacity for either 10% of the total volume in the containers or has the capacity to store the volume of the largest container, whichever is greater.
- Are all containers and/or PCB items in good condition with no signs of leakage or deterioration?

- Is PCB containment volume equal to two times the internal volume of the largest PCB article or PCB container, or 25% of the total internal volume of all PCB articles or containers, whichever is greater?
- Is the entrance to PCB storage marked with a large PCB M_L mark?
- Is each PCB item or container marked with a PCB M_L or M_S mark?
- Are items marked with an out-of-service date, or is there an inventory list indicating out-of-service dates for items stored within a container?
- Have previously identified deficiencies undergone resolution? Indicate status on back of inspection form.
- Ensure that there is no freestanding liquid within sumps or collection areas. (If freestanding liquid is discovered, immediately notify facility manager.)
- Verify that containers in "dry storage" are elevated or otherwise protected from contact with accumulated liquid.
- For a staging pile, are controls for fugitive dust adequate?
    - If waste is being placed or removed, is fixative or water application sufficient to control dust?
    - If the staging pile is inactive, is the cover tarp in good condition (no tears or damage) and the ballast tubes placed to prevent wind lift?
- Is there evidence of waste being tracked out of the staging pile location?
- Are the required signage and physical barriers in place?
- Is there evidence of inadequate drainage, run-on, or run-off control?

Any deficiencies/problems will be noted on the checklist. Actions taken to correct identified problems will be recorded on the checklist or accompanying documentation

The inspector's name will be printed on the form. The inspector will sign and record the date and time of the inspection.

6. REFERENCES AND INTERFACES

None.

7. REPORTS

- Completed inspection reports
- Maintenance or response action documentation.

Decon Building Inspection

Prepared by	Tracking No.
R.C. Shilkett	8.5
Date	Revision
October 30, 2002	1

1. PURPOSE

This overview describes procedures to perform inspections to identify problems with operating the decon building and ancillary equipment on a weekly basis; after storms and after other events that may impact safe operation inspections will occur by close of the next business day.

Specifically, these activities include:

- Ensure the integrity of the identified systems and components through a regular inspection process
- Identify necessary repairs or response actions
- Maintain documentation to verify that all inspection requirements and identified actions have been completed.

2. SCOPE AND APPLICABILITY

This inspection is applicable to the decon building, process exhaust systems; contaminated equipment pad, treatment units, and decontamination equipment.

3. REGULATORY REQUIREMENTS

40 CFR 264.1101(c)(4) "Inspect and record in the facility's operating record, at least once every 7 days, data gathered from monitoring equipment and leak detection equipment as well as containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste."

4. EQUIPMENT

- An oil/water interface level indicator or semiclear bailer.

5. IMPLEMENTATION

Inspections will be performed weekly or following a significant rain, snow, windstorm event or other event that may impact the safe operation of the decon building on the next business day.

Prior to the inspection tour, the inspector will review the previous inspection report to note any deficiencies. The operating log for the time period since the previous inspection will be reviewed for any equipment status changes.

A checklist format will be developed that will address, but not be limited to, the following items:

- Decon building
  - Is the building exterior (roof, walls, door) in good condition?
  - Are floors clean and dry?
  - Is there any evidence of damage to the floor/sealant from roll-odroll-off containers?
  - Is the trench system clean and clear of sediment?
  - Is there any evidence of floor surface deterioration, cracks (>1/8-in.), gaps, or corrosion?
  - Are access doors operational and door seals in good condition and able to contain hgitive dust emissions?
  - Does the building temperature indicate that the heating system is hnctional (cold weather only)?
  - Is the level of stored/treated waste within the containment walls of the building so that the height of any containment wall is not exceeded?
  - Is there any evidence of waste being tracked out of the building by personnel or equipment?
  - Monitor and record the level of fluid in the oil-water separator using an oil-water interface level indicator or a semiclear bailer.
- Process exhaust systems
  - Are the process exhaust systems for the decon bay and treatment area operational?
  - Are the instrumentation readings for differential pressure across filter banks within the acceptable range?
- Contaminated equipment pad
  - Is there any evidence of surface deterioration, cracks (>1/8-in.), gaps, or corrosion?
  - Is the grating over the drainage trench free of debris so that run-off will not pool on the slab?
- Treatment unit
  - Is the treatment unit operable (no out-of-service tags)?
  - Is there any evidence of wetted waste leaking out of the unit?
  - Is there any evidence of dust leaking out of the unit?
  - Is there any evidence of corrosion damage to the treatment unit?

- Are instrumentation readings for any hgitive emission control system within an acceptable range?
- Is there any evidence of hydraulic or water leaks from the treatment unit?
- Is there any evidence of treatment chemical or waste spills?
- Are treatment chemicals properly labeled and stored?

- Decontamination equipment
  - Is the decontamination equipment operable (no out-of-service tags)?
  - Is there any evidence of leaks from the equipment?
  - Are required tools properly stored?
  - Are decontamination chemicals properly labeled and stored?

Any deficiencies/problems will be noted on the checklist. Actions taken to correct those problems will also be recorded on the checklist or accompanying documentation.

The inspection document will be signed and dated by the individual performing the inspection

Appropriate response actions must be taken for any noted inspection deficiency. Response actions shall be implemented by notifying the ICDF Complex operations manager at the end of the inspection. The operations manager shall be responsible for implementing response actions upon notification.

The inspection report will be reviewed and approved by the facility manager or his designee.

6. REFERENCES AND INTERFACES

None identified.

7. RECORDS

- Completed inspection reports
- Maintenance or response action documentation.

Appendix B

Equipment List

Appendix B
Equipment List

Operations at the ICDF Complex will include both work in contaminated (hot) and clean (cold) areas. Some of the equipment items will be permanently placed in the landfill or other areas that are contaminated. Although some of the equipment items used during operations will work in both areas, such as the forklift, it is assumed that the piece of equipment will be allowed to leave the hot area on condition of a release by the appropriate environment, safety and health personnel.

This equipment list (see Table B-1) only includes equipment that will be purchased following construction of the ICDF Complex. All items of equipment such as pumps, valves, etc. are shown in the engineered drawings prepared by the construction subcontractor. The drawings have been submitted in the appropriate Remedial Design/Construction Work Plan.

Table B-1. ICDF equipment list (permanent and temporary).

Permanent Equipment	Required To Open Landfill	Required To Open Treatment Unit	Other
Landfill Operations			
Track-type tractor	X		
Backhoe loader w/thumb	X		
Wheel Loader	X		
Cargo container (equipment storage units)	X		
20,000-lb. forklift	X		
Nuclear density gauge/Humbolt GeoGauge	X		
Hoisting/rigging equipment			X
ProGuard SB Hydro Seeder	X		
Daily (ProGuard SB)	X		
Winter (ConCover SW)			X
Roll-truck with hoist	X		
Roll-on/roll-off containers with tarps			X
Water truck	X		
Passenger vehicles			X
Hot-water pressure washer			X
Portable canopy for pit personnel safety			X
Porta-Potty	X		
Bar code printer	X		
Personal computer	X		
B&W laser printer	X		
Scanner			X
Fax machine			X
Copy machine			X
Telephones	X		

Table B-1. (continued).

Permanent Equipment	Required To Open Landfill	Required To Open Treatment Unit	Other
Radio base unit	X		
Radios (mobiles & handhelds)	X		
Hand-operated compactor			X
Ecological monitoring traps			X
Miscellaneous ecological equipment			X
Networking equipment	X		
High-volume landfill leachate pump	X		
Pump pressure transducer unit	X		
MOYNO 2-TL8 Progressive Cavity Pump	X		
Portable dose rate instrument	X		
Portable scaler for RadCon swipe counting	X		
Hand-held friskers - alpha & beta	X		
Alpha probe for friskers	X		
Beta probe for friskers	X		
Bench-top scaler	X		
Digital dosimeters	X		
47-mm cassettes	X		
Tygon hoses	X		
Portable air sampler - hi vol	X		
Portable air sampler - low vol	X		
12-volt battery recharger	X		
Telescoping dose rate meter	X		
PCM-2		X	
Spill kits	X		
Depth markers	X		
Wall-mounted winch	X		
Terri-cloth wipes	X		
Miscellaneous hand tools	X		
HEPA-filtered vacuum			X
Calibrated flow instrument			X
Coffer-dam material			X
Portable generator	X		
Emergency rescue equipment	X		
Fire extinguishers	X		
Hoses	X		
SSSTF Facility Equipment			
Continuous alpha air monitors (CAMs)		X	
Cables for alpha CAMs		X	

Table B-1. (continued).

Permanent Equipment	Required To Open Landfill	Required To Open Treatment Unit	Other
Alpha-7 radial head		X	
Alpha-7 in-line head		X	
Alpha-7 sources Pu-239		X	
Alpha-7 sources Am-241		X	
Alpha CAM filter tray assembly for in-line head		X	
Alpha CAM source holder assembly for in-line head		X	
Alpha CAM 1-1/4-in. fitting for in-line head		X	
Alpha CAM client software		X	
Alpha CAM calibration software		X	
Millipore 5-micron filters		X	
Beta air monitors		X	
Beta air monitors detector head		X	
Beta CAM Sr-90N-90 sources		X	
Beta CAM Cs-137 sources		X	
Air pumps		X	
Radiation area monitor control unit		X	
Radiation area monitor detector		X	
CAM carts		X	
Air sample lines		X	
Air sample lines connectors		X	
Detector for portable scaler		X	
Counting tables		X	
CAM/RAM table		X	
Temporary Equipment			
Road grader			X
Flatbed truck			X
Crane			X
Dump truck			X
Drum roller			X

B-2. ICDF Critical Spare Parts/Equipment

Table B-2 lists the critical spare parts and equipment items that will be maintained at the facility to ensure the protectiveness of the proposed remedy. The ability to measure and remove leachate from the LCRS is the most significant hnction.

Table B-2. ICDF critical spare parts/equipment.

Item	Number Needed	Description
High-volume landfill leachate pump	1	EPG Companies Inc., model WSDPT 17-2 SurePump™ with 2-HP 460 VAC 3-phase motor. Includes 200-ft jacketed motor lead, submersible level sensor with 200-ft lead.
Pump pressure transducer unit	2	EPG Companies Inc., model PT05X LevelMaster™ submersible level sensor (this sensor fits all EPG pumps).
TARBY 2-TL8 progressive cavity pump	1	Replacement high-pressure pump for the ConCover All-Purpose Sprayer (CAPS) unit for application of daily/long-term cover materials.